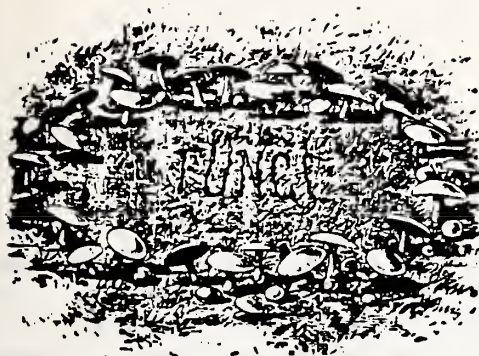




the fungifile

Newsletter of the Triangle Area Mushroom Club

P.O. 17061, Durham, North Carolina 27705

Volume 5 Number 1 January/February 1986

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Program Chair: THIS SPACE AVAILABLE

MARK YOUR CALENDAR

Meetings

- January 13: Pot-luck dinner and member slide show. Bring a dish to share and any slides you would like to show: interesting pictures, unknown mushrooms, TAMC functions. (Please bring recipes for any mushroom dishes you make.) We will also be discussing the FUTURE OF THE CLUB. Think about it: How important is it to you that the club HAS a future? Meeting at the home of Bill Burk, 1122 Sourwood Drive, Chapel Hill at 7:00 pm. See map p 72. (942-6387).
- February 10: Annual Business Meeting and Elections, followed by a talk by Ed Haynes: "The Cultural and Gastronomical History of Fungi in Southeast Asia," including highlights of his recent trip to India. Meeting in room 143, Jones Building, Duke West Campus, 7:30 pm.
- March 22: (note: Saturday morning) In a repeat of last year's successful meeting, member Edmond Badham of Carolina Fungi, Inc. will demonstrate how to grow the edible Shiitake mushroom at home. The demonstration will include procedures for inoculating logs, a description of proper growing conditions, how to induce mushroom production, as well as potential pitfalls. A limited number of logs and a larger amount of Shiitake spawn will be available at cost to those who wish to take home mushroom producing logs that they have started. You may bring your own logs (3 - 10 undamaged oak logs, 3" - 6" diameter, 3' long, which should be aged one month after cutting, but not more than 3 months) and we will provide spawn and equipment. Meeting at 9 am to 12 noon at the North Carolina Botanical Garden in Chapel Hill. This will be an outdoor meeting, so dress appropriately. (In case of rain we will meet indoors.) Call Edmond in Raleigh at 787-2429 for further information.

Dues are Due

This is the last issue of The Fungifile you will receive if you have not yet paid your 1986 dues. We have received your dues and you are on the mailing list if there is a red 86 on your mailing label. If there is no red 86 on your label, send your dues (\$8.00 for individual membership, \$2.00 for each additional member at the same address, \$7.00 for corresponding members) to club address on first page. See previous two newsletters for further information.

A Chance (Another Chance?) to Serve the TAMC

by Ed Haynes

Once again we are approaching the time for the TAMC's annual elections. And once again, here is an open and frantic plea for volunteers to serve as officers. For several years, we have been formally organized, with a constitution, officers, and all that. We shall again be selecting those lucky individuals who will have the opportunity to serve as officers. I am not going to serve a third term as president, David Green is anxious to be relieved as Secretary/Treasurer, and Doug Lucy is not able to continue as Foray Chair. As long as there are individuals willing to serve and to share the light burden of administration, none of these jobs is too bad. If, however, positions are left open (as Program Chair has always been) then the burden on all the TAMC officers is increased. And, not incidentally, those particular individuals are no longer willing to carry the entire load. Additionally, the mobility among people in an area such as ours makes it vital to diversify the leadership positions beyond the select group of a few people who have done most to the jobs to date.

Don't let your lack of experience or contacts inhibit or intimidate you: none of us had experience when we started. We will teach you, and help you along.

There are two elective offices -- President and Secretary/Treasurer -- and three appointive offices -- Editor, Foray Chair, and Program Chair. Volunteers are needed for all positions. Without officers, the frequency and quality of what we offer will decline. Especially meetings, forays, and newsletters. And let's face it, folks, how much else is there?

November 11 Meeting

In November, the club was treated to a discussion of close-up photographic technique and a slide show by Calvin Wong. Calvin is a medical illustrator and entomologist with a strong interest in nature photography. He spent a good part of the meeting trying to demystify mushroom photography, showing us his equipment, explaining various ways to achieve close-up shots, and his personal techniques and tricks. He followed the discussion by showing some of his results: wonderful mushroom pictures which we tried, some successfully, some not, to identify. Through other beautiful non-mushroom pictures, Calvin then showed the unique ways that the camera can teach us to look at nature.

deCurrent Events

[For further information on starred* items, see previous issue]

March 1-18, 1986: The SECOND ANNUAL GOURMET TRUFFLE AND MUSHROOM ADVENTURE* to Spain, France, and Morocco. Write to Educational Tours, Inc., 5935 South Pulaski Road, Chicago, IL 60629.

April 3-20, 1986: HALLEY'S COMET MUSHROOM STUDY TOUR* of New Zealand, Australia and Papua New Guinea, lead by the team of Gary Lincoff, Andrew Weil and Emanuel Salzman. Write to Emanuel Salzman, c/o Fungophile, Box 5503, Denver, CO 80217-5503.

April 27, 1986: Gastonia, NC: WILD FOODS FESTIVAL sponsored by the Schiele Museum of Natural History. (704) 864-3962.

VICARIOUS FORAGING

Unlike last year at this time, we are experiencing WINTER. It's cold out; colder than most of us want to feel looking for whatever mushrooms are brave enough to be pushing up. But there are fungi hiding between the covers of books, waiting to be discovered. Below you will find references and reviews to lead you to the fruitful spots. Some of these books are about mushrooms, others talk about them to various degrees. So, pile some logs on the fire, and read about someone else's experience with mushrooms while you're warm and dry. And dream about next season.

Thanks to the folks who responded to my request for references, and who helped research and write: Bill Burk, Marsha Poirier, Maggie Rogers of Mushroom Magazine, Ruth Lang, Elaine Haynes, Carl Rich, Dr. Robert Southwick Richmond of the Asheville Mushroom Club, Eli Daniel, and a couple other people whose names became detached from the information they sent me.

The following list contains items which are not discussed in the rest of the newsletter, although they talk about mushrooms. I've tried unsuccessfully to find some, others I haven't looked for. (Remember, reviews of these, as well as more extensive reviews of items mentioned in Capsules below, are always welcome for future newsletters!):

A poem by Sylvia Plath (possibly in Braces, edited by Summerfeld.)
(Mushrooms take over the planet.)

Anna Karenina by Tolstoy

Alice in Wonderland (or is it Through the Lookingglass?) by Lewis Carroll

Swift in the Night by Bowery (or is it Mowery?)

Fields of Noon by Shiela Bernford

In a Patch of Fireweed by Heinrich

I. Claudius

Lady Macbeth. In the opera she poisons her spouse with mushrooms.

HAPPY HUNTING!

Book Review

by Carl Rich

Another Roadside Attraction by Thomas E. Robbins, Ballantine Books, NY, NY, 1971, 337 pages.

Tom Robbins was a student of art and religion, later worked as an editor; dropped out to write fiction. Born in North Carolina, reared in Virginia, he now lives in a fishing village north of Seattle, Washington.

This story is about a gypsy psychic-reader, Amanda. Amanda has a son, Thor; the electric look in his eyes may have come from being conceived during a thunderstorm.

Later, she marries an artist and they open a roadside attraction (the Captain Kendrick Memorial Hot Dog Wildlife Preserve) that sells hotdogs and fruit juice; unusual signs and exhibits attract hungry and curious tourists and neighbors. The setting is on Highway 101 in Washington state; the climate is rainy. Mushrooms are discussed since Amanda likes to cook, especially her marijuana breads.

A man from their past is assigned to teach martial arts at the Vatican; during an earthquake, he goes into the catacomb to steal treasures and finds a mummified figure that is obviously Jesus Christ. He steals the item and brings it to the Captain Kendrick Memorial Hot dog Wildlife Preserve. The wacky story whirls about religion, philosophy, and nature; humor and lust; word play and surprise. It may stir the creative mind; it may be a waste of time.

From Another Roadside Attraction:

"May I please just look in on her?" His voice was tired but so very cultured and strong. 'I'd like to leave these.' He held out a bouquet of fly amanita (*Amanita muscaria*) -- big robust mushrooms with white warts distributed about their scarlet caps.

"The nurse gulped. 'They are poison, aren't they?'"

"No. No, they have an ... abnormal ... effects on the nervous system, the brain, but there is no death in them. Anyway, they're for looking, not munching.' He smiled. 'She'll like them very much.'"

* * *

"...'How can we be sure we aren't picking toadstools?' he asked.

"'Specialization is such general tyranny,' thought Amanda. 'Was it when man initiated the division of labor that he lost contact with the complete reality and began to fragment and go numb? Here we have a scientist, a man who has sacrificed this lifetime to the study of the earth and it's workings, and he does not know that 'toadstool' is just another name for mushroom, edible or toxic. How puny his particular knowledge. Still, I suppose it is necessary. Isn't it?' She thought these thoughts to herself as in her mind's eye she ran naked through the woods, hugging trees.

"To Marvelous, she said: 'If it is poison you are worried about, you had better stay away from supermarket foods with their preservatives and pesticides.'"

"'Oh, I feel totally at ease in supermarkets,' said Marvelous lightly. [...] 'Mushrooming sounds to me like a risky proposition.'
 "'A bit like life itself,' said Amanda."

Author Tom Robbins on Mushrooms and Rain

[The following quotes are from the article "Why I Live Where I Live: Burlington, Washington" by Tom Robbins published in the October 1980 issue of "Esquire" magazine.]

"I suppose I ought to mention the mushrooms.

"More than twenty-five hundred species of mushrooms must grow in this dank corner of America, many of them quite delicious. There is one tiny, innocuous-looking kind - Psilocybe - that falls pale upon the palate but lights up the central nervous system like a neuroelectrical midway. Many wild fungi are best fried in butter. Psilocybe should be marinated in intelligence and sauteed in sacred pause. Thus prepared, they can liberate the senses, accelerate consciousness, reprogram the biochemical computer, bring you closer to the godhead, and provide an awful lot of laughs.

"Pastures around Burlington abound in Psilocybe. They're free for the picking. And nobody cuts them with laundry detergent.

"If I'm going to mention mushrooms, I might as well mention rain. The notorious Northwest rain. The skinny gray rain that toadstools love. The moss-knitting rain. The father of mud. The rain that falls from the realm of the invisibles, like a cascade of cheap Zen jewelry, whispering in a secret language of the primordial essence of things.

"For nine months of the year this rain wets our windows, wets our perpetually postponed picnics, wets stumps, slugs' horns, and the down-cast necks of the mallards. Some people can't take it. It drives them to suicide or southern California. Me, I can't get enough. It feeds me, comforts me, keeps me operating on dream time. Rain is the perfect accompaniment to writing fiction, the ideal companion down oblique paths of mysticism and eroticism.

"I've been asked who I write my novels for.

"I write them for the rain."

Book Review

by Elaine Haynes

The Documents in the Case by Dorothy L. Sayers (with technical assistance of Robert Eustace). Published by Avon Books, c1958.

The jacket blurb reads "the plant expert...had died horribly - with a dish of mushrooms at his side." That is enough to snag any myconophile who is also fond of mysteries. The Documents in the Case is well worth the time spent reading it. This is an unusual story in that it is exactly as the title suggests, a collection of documents, mostly letters, in which the facts of the case are revealed, followed by a narrative in which the loose ends of the case are gathered together. The skillful details of the story are accurate and skillfully utilized in the unfolding of the tale. The only real problems with the book are the numerous unfavorable remarks about mycophagists - the expert botanist is not sympathetically portrayed and his passion for mushrooms even less

so. However this is an attitude with which we are all familiar and it did not interfere with my overall enjoyment of a well-crafted mystery story.

For those who would like more information on the technical aspects of the story I have collected some interesting tidbits and will be glad to provide a copy to anyone who is interested.

Capsules

[The following four capsule reviews are from an annotated bibliography entitled "Poisonous and Hallucinogenic Mushrooms" by Dr. Robert Southwick Richmond of the Asheville Mushroom Club. In fact, many thanks are due to Dr. Richmond, because his handout provided the inspiration for "Vicarious Foraging."]

Soma: Divine Mushroom of Mortality by R. Gordon Wasson. Published by Harcourt Brace Jovanovich, about 1968. The English Wasson and his Russian wife discovered the Mexican cult of Psilocybe mushroom hallucination, and later turned their attention to the Old World. In this book they explore the Finno-Ugrian sources of the fly agaric cult, and suggest that this mushroom may be the mysterious soma of the Vedas. (I do not know what opinion Vedic scholars hold of this work.) [For more discussion of this book, see the July August 1983 issue of The Fungifile.]

The Sacred Mushroom and the Cross: Fertility Cults and the Origins of Judaism and Christianity by John T. Allegro, published by Doubleday, 1970. This preposterous book affects to do for the Bible what the Wassons did for the Vedas. Allegro may offend your religion, if you can stop laughing for long enough. [Available from the Durham Co. Library]

The Marriage of the Sun and the Moon by Andrew Weil, published by Houghton Mifflin, 1980. Like his earlier work The Natural Mind, this very idiosyncratic yet scientifically sound work describes experiences with a number of hallucinogenic mushrooms and vascular plants, as well as hot chilis, mangoes, solar eclipses, and the pleasures of throwing up in Mexico. [Andy Weil is one of the co-leaders of the Halley's Comet Mushroom Tour (see deCurrent Events) and past mushroom excursions.]

The Teachings of Don Juan by Carlos Castaneda, published by Simon & Schuster, about 1968. Dubious myco-drama involving among other intoxicants "el humito," a dried mushroom which is smoked or snuffed. Unknown to science, this fungus may well be a babamycete.

The Sacred Mushroom: Key to the Door of Eternity by Andrija Puharich, published by Doubleday & Co., 1959. The author, a physician doing research into extrasensory perception in the 1950's, claims to have discovered, through subjects in a trance, that the use of Amanita muscaria was central to a heretofore unknown ancient Egyptian sacred mushroom cult. He fell upon this quite by accident, having no knowledge of ancient Egypt or mycology at the outset. His subsequent studies of mushrooms, Egyptian language, hieroglyphics and culture, supplemented with his psychical research (with and without the use of A. muscaria "preparations"), held together with much imagination and conjecture

weave a fascinating story. The science may be dubious, the results questionable, but the reading interesting. (I don't know how easily available this book is; I found it in a used book store and will be happy to lend it out. jz)

"The word 'mushroom' is conspicuous by its absence from the ancient Egyptian language. This either means that they did not know the mushroom, and this is unlikely, or that they held it in such high reverence that it was the best-kept secret of their culture."

Maria Sabina: Her Life and Chants by Alvaro Estrada. Published by Ross-Erikson Inc., Santa Barbara, 1981. The oral autobiography of the great Mazatec Indian Wise Woman, who died this past November at the age of 97. Maria Sabina attributed her ability to cure illness to the wisdom given her by the "saint children", or psilocybe mushrooms. She was introduced to the rest of the world in 1955 by R. Gordon Wasson, and became a national celebrity, as well as a target for foreigners who "wore shirts of many colors and used necklaces," were "long-haired, with strange clothes" (the hippies of the 60's).

"These young people, blond and dark-skinned, didn't respect our customs. Never, as far as I remember, were the "saint children" eaten with such a lack of respect. For me it is not fun to do vigils. Whoever does it simply to feel the effects can go crazy and stay that way temporarily. Our ancestors always took the "saint children" at a vigil presided over by a Wise One."

[These next two capsules are reprinted from the newsletter of an unknown mushroom club (in NY?). My apologies for losing the reference. Please let me know if you recognize the source. jz]

Astonishment of Heart by Edwin Moses (son of Elizabeth Moses who is a NAMA trustee from Mannattan, Kansas...yes, Kansas.) Macmillan, 1984. This powerful novel includes a piece on hunting morels.

Castaway by Lucy Irving. Published by Dell, 1985. She answers an ad by a man looking for a woman to live with him for one year on a desert isle. This includes a fine page or two on her discovery of a phallus garden on the island, and how she becomes a devotee of sorts until the stinkhorns wither and die. So it goes.

Onions in the Stew by Betty MacDonald, published by Lippincott, 1955. About life on an island in Puget Sound, this contains a three page account of the foolishness of "being in a reckless mood" and eating unidentified mushrooms:

"I was drinking my second cup of coffee when suddenly without any warning at all, everything went black. I said, 'Oh, my God, the mushrooms!' and tried vainly to remember whether mushroom poisoning is acid or alkali and what the drugstore calendar had said to do in either case. All that I could dredge up was that peat moss is acid - wood ashes are alkali."

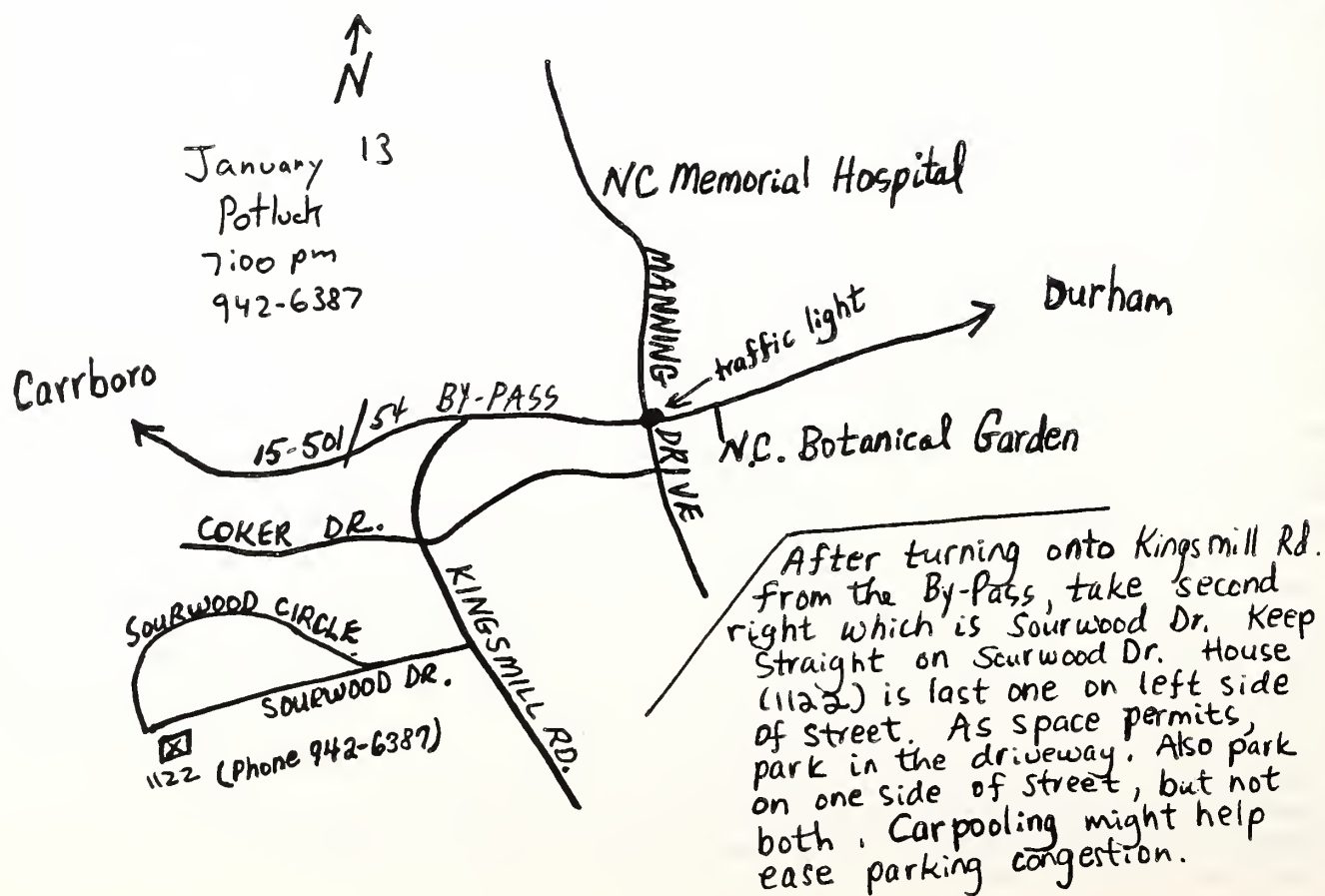
"The doctor kept me waiting an hour, then looked at my eyes, took my blood pressure and gave me a lecture on the dangers of gathering your own mushrooms. As I went out the door he called out gaily, 'If you lose consciousness within the next eight hours, call me, but it will probably be too late.'"

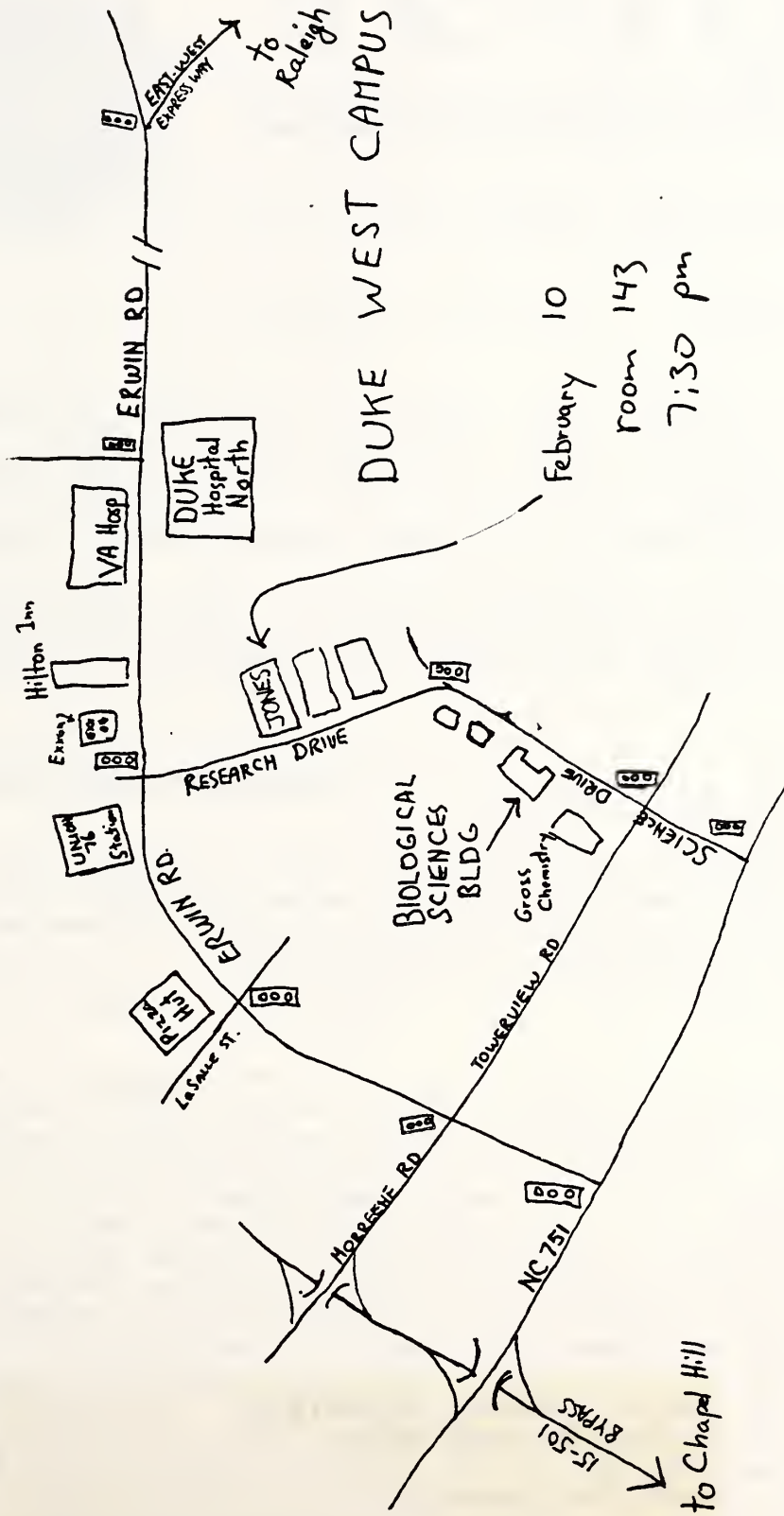
"An Italian farmer friend of Don's whom we met in the hardware store said, 'Them mushrooms wasn't poison. Fall mushrooms are never poison. It's in the spring you gotta watch out. My wife almost die from mushrooms, two, three times but always in the spring. Now before she eats mushrooms she drink big glass of olive oil. Never has any more trouble.'"

(Thanks to the member who sent me this item; I've lost your name. Please identify yourself!)

Stowaway to the Mushroom Planet by Eleanor Cameron, published by Scholastic Book Services, 1956. This children's book was given to me by a young friend and is about the flight of two boys (and the Stowaway, of course) to the planet Basidium, in a homemade spaceship. It is the sequel to The Wonderful Flight to the Mushroom Planet (published by Atlantic Little, Brown, 1954), which evoked warm memories from several adults when I mentioned it (my sister remembers writing a book report on it in elementary school!). It seems there are a handful of Basidium-ites, or Mushroom People, on our own planet, having been carried here as spores, and one of them helps the boys to reach his ancestral home.

"Mushrooms in the City" in Marcovaldo or The Seasons in the City by Italo Calvino, published by Harcourt Brace Jovanovich, 1963. A short short story about the misadventures of a mushroom collector, with an O Henry ending. [Thanks to Marsna Poirier and Ruth Lang]





February 10
room 143
7:30 pm

Triangle Area Mushroom Club
Box 17061
Durham, NC 27705

North Carolina Collection
Wilson Library 024-A
UNC-CH
CAROLINA CAMPUS

C589.22205
F98t



the fungifile

Newsletter of the Triangle Area Mushroom Club

P.O. 17061, Durham, North Carolina 27705

Volume 5 Number 2

March/April 1986

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.....471-9459

MARK YOUR CALENDAR **Meetings**

Meetings are generally held on the second Monday of the month.
PLEASE NOTE: Tom Krakauer agreed to coordinate meetings under the proviso that other members arrange individual meetings. Bill Burk has volunteered to set up 3 - 4 meetings and all of these will be in Chapel Hill. As of this writing, unless someone else comes forward to arrange any other meetings, there will be none.

March 22: (note: Saturday morning) In a repeat of last year's successful meeting, member Edmond Badham of Carolina Fungi, Inc. will demonstrate how to grow the edible Shiitake mushroom at home. The demonstration will include procedures for inoculating logs, a description of proper growing conditions, how to induce mushroom production, as well as potential pitfalls. A limited number of logs and a larger amount of Shiitake spawn will be available at cost to those who wish to take home mushroom producing logs that they have started. You may bring your own logs (3 - 10 undamaged oak logs, 3" - 6" diameter, 3' long, which should be aged one month after cutting, but not more than 3 months) and we will provide spawn and equipment. Meeting at 9 am to 12 noon at the North Carolina Botanical Garden in Chapel Hill. This will be an outdoor meeting, so dress appropriately. (In case of rain we will meet indoors.) Call Edmond in Raleigh at 787-2429 for further information. See map, page 20.

April 14: Dr. Jan Kohlmeyer, Professor at the UNC Institute of Marine Sciences in Morehead City and world authority of marine fungi will speak about his experiences as a mycologist in Berlin (where he was an inspector for the market) and about marine fungi. Meeting at

7:30 pm at Coker Hall, UNC campus, Chapel Hill. Enter through side door, and look for directions to room. See map, page 20.

May 12: To be announced. See note above.

June 9: Rick Sloane, MS Degree student of Crop Science at NCSU, will talk about research into agricultural uses of mycorrhizal fungi.

Forays

FORAY POLICY: Deluge/Drought Policy: Normally, we will go out in the rain. However if there is exceptional rain on the morning of the foray, call the contact person to find out if the foray is cancelled. Dry conditions, leading to frustrating hunts for non-existent fungi, have proven to be more of a major problem in this area. If you think there is any chance that it has not rained at the site for some time previous to the scheduled date, call the contact person, foray leader, or foray chairpeople within 72 hours of the foray to find out if it will be cancelled.

Take off time from meeting place is 10 am. If you would prefer to meet us at the foray site, call contact person for directions. Bring lunch! Also basket, waxed paper or bags, knife, field guide, & whistle.

Meeting places: Texaco Station: University Mall parking lot in Chapel Hill, corner of Estes Dr. & 15-501 Bypass.

Battle Park: From 15-501 Bypass in Chapel Hill, take 54W (Raleigh Rd.), and turn right at first light on to Country Club Rd. Pass Forest Theater on right, then turn right on Boundary St. Park in small picnic area parking lot on right, behind Forest Theater.

Foray chairs are Dianne Berg and Mary Aycock (phone numbers above).

April 19: Annual Morel Foray. Bill Burk will once again take us to his favorite, hopefully fruitful spots. Bring your morel spotting glasses. Meet at 10 am at Texaco Station.

May 10: To Be Announced.

Impromptu Forays

by Ed Haynes

At the January meeting, considerable discussion time was given to the scheduling of forays. Given the uncertain rainfall of our North Carolina summers, there was some concern over the wisdom of scheduling forays far in advance, lest the rains fail, resulting in no mushrooms, and then in frustration and disappointment for the hardy three people who appear for the foray (not to mention the foray leader!).

The problem, of course, is that if the members are going to know about forays and be able to schedule their time, then the forays must be announced in the Fungifile at the earliest possible date, frequently months in advance. Also, these "big" forays are important to all of us and -- when the mushrooms are out -- provide very important foraging facilities. The discussions led us to consider an additional second "layer" of forays: small(er), impromptu ("Hey, the chanterelles are out in Duke Forest. Let's go!") forays. The problem here is one of announcing the foray, getting the word around so that no one who is interested or available will be left out. The solution was this: We will set up a "calling tree" of those members who express an interest (by contacting Ed) in being notified by phone of such short-notice forays. Only those

members who have indicated an interest in participating (and in helping to spread the word) will be called. When I have in hand the list of those who are interested, I'll draw up a "calling tree" listing (sorted by phone exchange) of names and phone numbers, with a main "contact person" in Raleigh, in Durham, in Chapel Hill, and in any other places that, due to the uncertain wisdom of our telephone system, constitutes a long-distance toll charge from any other place. With minimal long-distance calling (which costs might be recovered from TAMC), and with only a few people to call at each "link" of the chain, we can spread the word relatively quickly. These informal forays would not replace the old forays (although there may be only one per month), but could serve as a more responsive supplement for those members most interested in foraying.

Of course, this system depends on someone initiating impromptu forays in the first place. No one is designated as initiator, so it is incumbent upon the membership (you!) to notice when and where mushrooms are up, and to start the notification process by calling Ed (493-7703) or one of the officers. Remember, this is a crucial step in the project, and the success of impromptu forays depends on you.

IF YOU ARE INTERESTED IN BEING NOTIFIED OF IMPROMPTU FORAYS, AND ARE WILLING TO PARTICIPATE IN THE PHONE TREE TO NOTIFY OTHERS, SEND A POSTCARD TO ED HAYNES (3447 Hope Valley Rd., Durham, NC 27707). List phone numbers and times at which you are most likely to be reached.

[The Calendar which accompanies this newsletter lists two dates per month as forays. At least one of these dates each month will be scheduled (check current newsletter), and the other date may be (but not necessarily) impromptu. Impromptu forays can also be held on any other days that someone wishes to call.]

Field Trip Rules

For the consideration of the others, please be on time.

Respect private property.

No animals, firearms, or illegal substances, please.

No excessive consumption of alcoholic beverages.

Dispose of litter in an acceptable manner.

Children must be accompanied by a responsible adult at all times.

Disturb the environment as little as possible, replacing duff and leaves, and leave discards and cuttings out of sight.

Remember, the effects on the environment are magnified when groups are at large, so be extra conscious of leaving the area as natural as you found it.

deCurrent Events

April 27, 1986: Gastonia, NC: WILD FOODS FESTIVAL sponsored by the Schiele Museum of Natural History. (704) 864-3962.

August 19-September 5: NAMA SCANDANAVIAN FORAY. Collecting & sightseeing in Bergen, Norway, cruise up fjords to Trondheim, to Abisko, Sweden, Tromso, Norway, and Copenhagen & Tivoli. Lead by Orson & Hope Miller. Costs not yet finalized, but will be kept to

a minimum. NAMA members only. Watch future Mycophiles for details.
September 29-October 17, 1986: MUSHROOM STUDY TOUR OF SOUTHEAST ASIA
lead by Gary Lincoff, Emanuel Salzman, and Andrew Weil. The group
will tour the major cities and hill stations of Southeast Asia, and
foray in surrounding forests known for luxurious mushroom growth.
The hill stations are the beautiful old British summer resorts of
colonial days. Visit and foray in Bangkok and Chang Mai where
Roger Heim studied the mushroom flora of Thailand; in Borneo in the
ancient rainforests along the Rajang River and on Mount Kinabalu
where E.J.G. Corner collected the boletes reported in Boletus
Malasia; and in Singapore, the "Garden City" of Southeast Asia.
(An 8-day mushroom tour of Burma will be offered as an optional
extension.) For information write to Emanuel Salzman, c/o
Fungophile, P.O. Box 5503, Denver, CO 80217-5503. (303) 296-9359.

December 13 Meeting

by Joan Zeller

Kerry Givens' slide show on December 13 fulfilled all expectations
for strikingly beautiful photographs and was accompanied by his amusing
& thought-provoking commentary. Though not all of mushrooms, Kerry's
pictures focused on the many kinds of subtle beauty awaiting those with
the imagination and patience to look for it. Kerry had several bits of
advice for the mushroom hunter, photographer, and general nature watch-
er. One of his ongoing themes was "look in your own backyard" (or even
living room). Many of Kerry's most exotic looking photographs were of
subjects captured in his home (or brought back from the wild to his home
to photograph in more comfortable & versatile surroundings). Another
theme was "look in odd places." Go off the trail, look in crevices,
turn over logs. Don't expect things to jump out at you: nature watch-
ing is an active process. "Look for life cycles": return to a site and
follow it through its various phases. (A tree through the seasons, for
instance, or the liquifaction of a clump of Coprinus.) "Think small,"
crawl around on your belly and look for the less obvious & showy crea-
tures.

Unfortunately, Kerry will soon be leaving us for the big wild world
of research and medicine. But he leaves us two legacies. We are
expanding his close-up photography series which appeared in last year's
Fungifiles, soon to be released as a handy booklet. (Watch your local
newsletter for details to be announced.) He has also generously donated
many of his "reject" mushroom slides to the club, to be used in future
meetings, workshops, or whatever. And be sure to keep an eye out in the
future for Kerry's beautiful photos in popular magazines.

The Meeting on 13 January and Some Important Discussions About the Nature and Future Activities of the TAMC

by Ed Haynes

On Tuesday, 13 January, the TAMC met at the home of Bill Burk for
our annual pot-luck dinner. (Many thanks to Bill and his mother for
offering their hospitality and to those members who fed us so well!)
The meeting was well attended and there was much good food and good
conversation. Recipes for two of the dishes served appear elsewhere in
this newsletter. A lovely time was had by all.

After the food, an informal meeting -- more of a group conversation

-- took place to discuss the activities and future directions of the TAMC. There was general enthusiasm for the club, especially for the newsletter.

Several very useful specific suggestions were offered. It was proposed that we not regularly schedule meetings during the summer (when there are mushrooms about!), but that we rather consider our forays as meetings, and treat meetings more as "identification workshops". There was also a general sense that our forays should have more time set aside for studying and identifying our finds -- as best we can -- and to be more fixed in the amount of time devoted to scampering across the countryside (even when we are finding things). The scheduling (or non-scheduling) of impromptu forays was discussed, and is an important enough topic to merit an article to itself in this newsletter (see Impromptu Forays above.)

Meetings were also discussed, and the point was made that these are especially important in the winter months, when there are few mushrooms to hold the club together. The problem is, however, the familiar one of coming up with programs. We can always get a NAMA slide show, but do we want this all the time? We want to distribute meetings around our region (Durham, Chapel Hill, and Raleigh), but this requires having sessions, locations, subjects, etc. scheduled in each place. Now that we (finally!) have a Program Coordinator, we may be moving toward a resolution of this problem (though we still need individuals willing to schedule meetings in Raleigh and Durham). It was also suggested that in addition to our traditional winter pot-luck dinner, we might add a similar function during the mushroom season so we could actually eat more than what we find in stores or grow at home. Interest was expressed in having meetings or workshops on basic mushroom identification for novices, and a suggestion was made that some meetings could be made up of several short individual presentations given by the members.

Any other ideas or suggestions would be welcomed by your new officers (see the masthead).

February 10 Meeting: Annual Business Meeting and Election of Officers by Barney Gould

In the words of Charles Schulz's "Snoopy" in Peanuts: "It was a dark and stormy night." The attractive lecture hall -- room 143 -- in the Jones Building on Duke Campus was the setting for a real treat. The twenty or so members who braved the elements that night were glad they attended our annual meeting.

Outgoing President Ed Haynes took care of the business end and the elections with crisp dispatch. He pointed out that by our constitutional definition a quorum consists of those present who are currently paid up in their dues. So we had an ample number for a quorum since those present were all paid members. President Ed announced that Jacques Poirier was willing to serve as president for the coming year. There were no nominations from the floor; his election as the new president was unanimous.

Owen and Patsy McConnell have agreed to assume the office of Secretary/Treasurer. They were unanimously elected, as there were no other nominations from the floor.

Outgoing President Ed announced that Tom Krakauer, director of the

North Carolina Museum of Life and Science, has said he would be our Program Coordinator for the coming year, PROVIDING OTHERS VOLUNTEER TO ARRANGE INDIVIDUAL PROGRAMS. Bill Burk will arrange 3-4 meetings, all of which will be held in Chapel Hill. [As of this writing, there will be no other programs planned for the coming year -- Ex-acting-program-chair, a.k.a. Editor] Mary Aycock, Dianne Berg, and David Higgins have agreed to serve jointly in the Foray Chair. (Look for spontaneous forays when weather conditions are favorable, and members take the initiative to call one. See Impromptu Forays above.)

David Green, outgoing Secretary/Treasurer presented a satisfactory treasurer's report. We have \$477.58 in our treasury to date which is \$13.00 more than we had last year, after paying all expenses during the year. As of January 1 we had 71 paid active members -- roughly the same number as a year ago. Twenty five others have not yet renewed their memberships.

The outgoing slate of officers was warmly applauded for their fine work during the year.

New President Jacques had a few words of greeting which he closed by suggesting that members might observe their favorite mushrooms from a life span point of view. Maybe we can become mushroom actuaries by studying how long it takes for, say Morchella esculenta to grow from baby stage to grandpa stage and how long they stay in good condition after that before fading away. It is food for thought if we can refrain from using our favorite mushroom for food.

New President Jacques then introduced the speaker of the evening, past President Ed, who treated us to a verbal foray around India. Ed will review the information he presented in an article in a future Fungifile.

Recipes

These two dishes were among those served at the potluck. The first was brought by Ed and Elaine Haynes, and is from Old Fashioned Mushroom Recipes (Bear Wallow Books, Nashville, IN 47448), and Barney Gould created his Three M Casserole.

Baked Mushrooms

1 lb fresh mushrooms, halved and sliced lengthwise
1 cup diced celery
1/2 cup onion, minced
2 slices white bread finely crumbled
2 Tbs parsley
1/2 tsp Italian seasoning
1/4 tsp salt
18 tsp freshly ground black pepper
Dash garlic salt
2 Tbs butter
2 Tbs water

Combine all ingredients except last two and pour into a 1-qt. casserole dish. Dot top with butter slivers and sprinkle the 2 Tbs water over top of mushrooms. Cover dish. Bake in 350 degree oven 40-45 minutes.

Barney Gould's Three M Casserole

Market Mushrooms	3/4 lb.
Morels	as available and affordable
Meat (ground beef)	3/4 lb.
Macaroni	a little over 1 cup (before pre-cooking)
Dry sherry	1/4 cup
Chicken stock	1/4 cup
Garlic	2 cloves
Butter	as needed for sauteeing
Olive oil	ditto
Paprika	small amount
Italian seasoning	small amount
Lemon pepper marinade	small amount
Chopped bell pepper	small amount
Parmesan cheese	small amount
Sour cream	optional

Boil macaroni in salted water for about 6 minutes. Drain; separate pieces immediately in the colander using hot water. Drain again. Place in a large mixing bowl.

Heat some butter and olive oil in a skillet. Finely chop the garlic and sautee. Add ground beef, adding lemon pepper marinade and Italian seasoning to taste. Then add the chicken stock. Sautee for five minutes. Stir entire contents into the large mixing bowl, and mix well with the macaroni.

Clean and slice market mushrooms ("T" them). If you have some morels, slice them lengthwise (after they have been properly soaked). Place some butter, olive oil, and the sherry in a skillet. Mix at medium heat. Then gently sautee the mushrooms and the bell pepper about five minutes. Add some lemon pepper marinade if desired. Put this skilletfull in the large mixing bowl and stir entire contents.

Add some parmesan cheese to the mixing bowl, stirring contents again. Transfer all this mixture to a large casserole dish. Sprinkle the top with paprika. Cover and bake in a preheated oven at 325 degrees for 45 minutes. Remove from oven and serve at once, topping individual servings with a dab of sour cream, if desired.

(Serves 6, 8, 10, or 12 -- depending on appetites and the success of the creation.)

Missing pages?

For those of you who notice or care about such things, the page numbers of two recent Fungifiles have been, as they say, all screwed up. (In the remote case that an index is generated, this may become relevant to the rest of you.) Volume 4, No. 4 (July/August 1985) should be numbered pages 31-44 and Volume 5, No. 1 (January/February 1986) should be numbered 1-10.

Morel Books

The Curious Morel: Mushroom Hunters' Recipes, Lore & Advice, by Larry Lonik, RKT Publishing. Presents the hows, wheres and whens of successful morel hunting, preservation tips, plus offers over 60 recipes. Illustrated. \$9.45 ppd. from RKT Publishing, P.O. Box 103, Royal Oak, MI 48068.

Book Review

by Bill Burk

Roon: A Tribute to Morel Mushrooms, by Paul Chelgren, Jerry Petermeier and John Ratzloff. Foreward by Peter Wahlatrom. Long Lake, MN 55356, Cabin Publishing (P.O. Box 73), 1985. 66p. \$9.50 plus \$1.50 postage and handling.

With a title equally as unusual as some of its color illustrations, this book is devoted to the morel. According to the Oxford English Dictionary roon is of obscure, Scottish origin, referring to a strip or shred, as of cloth. The connection of roon to morels remains obscured to this reviewer. The authors, however, provide their own definitions, including: "a person possessed by extreme or insatiable desires for morel mushrooms." Most mushroom hunters can relate to that definition.

Some general information on morels is provided: what they are, when and where they're found and their general development from spore to fruiting body. Five species of Morchella (the morel) are briefly described: M. angusticeps, M. esculenta, M. crassipes, M. deliciosa and M. conica.

Mycophagy dominates the remaining half of the book. Tips are included on the preparation of morels, for immediate use or for drying. Beginning mushroomers might well heed the authors' suggestions for the preparation of morels for the table. There is nothing so insulting as polluting the ecstasy of a morel meal with bits of sand or dirt. Cut the bases off the stems; brush off dirt or other debris; split the fruit body lengthwise and soak for 10 minutes in salt water; decant salt water and rinse fruit bodies with cold water; drain and blot morels with paper towels until dry. Twelve recipes provide a variety of morel dishes, including "Morelkies," "Woodnymph Gravy," and "Morel Dust Soup." Bon Appetit!

[Although there is no information on morels included in this book which cannot be found in standard field guides, the focus of the book seems to be on the unusual (as Bill says), strange, bizzare, but often striking photographs. jz]

TRIANGLE AREA MUSHROOM CLUB CALENDAR 1986

This calendar lists tentative scheduling for TAMC events. Please post this listing in a place where you will refer to it. For confirmation of dates and details, consult the current newsletter, or call the officers listed below.

MARCH 22: MEETING: Edmond Badham's Shiitake log inoculation demonstration. NC Botanical Garden, Chapel Hill, 9 am.

APRIL 14: MEETING: Jan Kohlmeyer, guest speaker. Coker Hall, UNC campus, Chapel Hill, 7:30 pm.

APRIL 19: MOREL FORAY: Meet at Texaco Station, 10 am.

MAY 10: FORAY: Battle Park, 10 am.

MAY 12: MEETING: TBA. Possibly an Identification Workshop.

MAY 18: FORAY: To Be Announced. Check newsletter.

JUNE 7: Foray: TBA

JUNE 9: MEETING: Rick Sloane, guest speaker. Research into agricultural uses of mycorrhizal fungi. Place to be announced.

JUNE 29: FORAY: Wally Kaufman's neighborhood. Meet at Texaco, 10 am.

JULY 12: FORAY: TBA

JULY 20: FORAY: TBA

AUGUST 9: FORAY: TBA

AUGUST 17: FORAY: TBA

SEPTEMBER 6: FORAY: TBA

SEPTEMBER ? (POSSIBLY SEPT. 8): MEETING: Dr. Larry Grand, guest speaker.

SEPTEMBER 21: FORAY: TBA

OCTOBER 5: FORAY: TBA

OCTOBER 6? (NOT 13, Yom Kippur and Columbus Day): MEETING: TBA

OCTOBER 18: FORAY: TBA

NOVEMBER 10: MEETING: TBA

DECEMBER 8: POTLUCK DINNER

For more information, call:

Jacques: 477-5837

Dianne: 933-9628

Owen & Pat: 477-5178

Mary: ~~942-3941~~

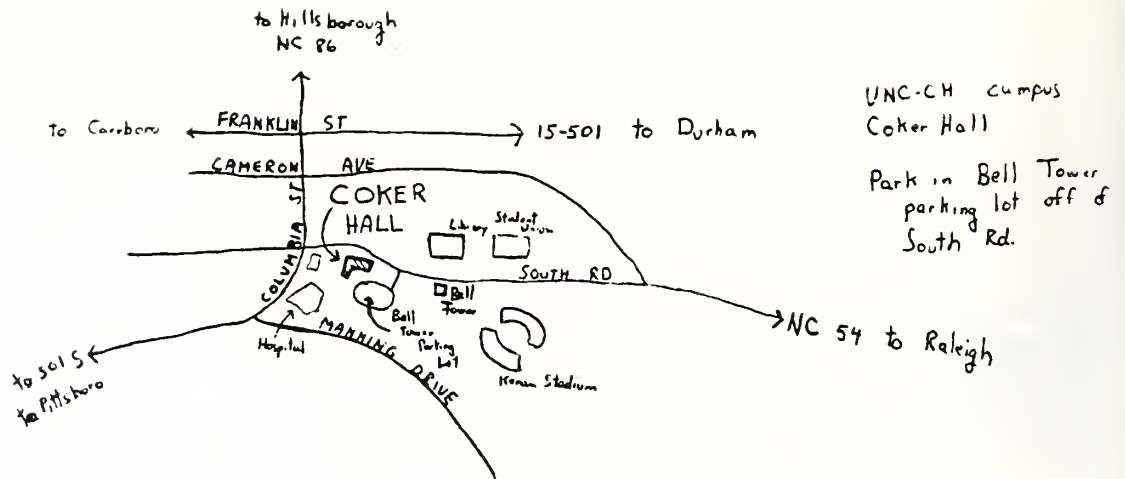
Joan: 383-7154

Tom: 471-9459

257-1826

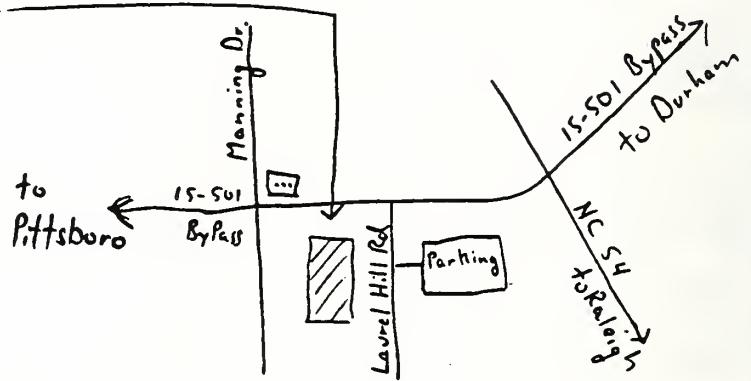
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Coker Hall
April 14
7:30pm



NC Botanical
Garden

March 22
9 am



Triangle Area Mushroom Club
Box 17061
Durham, NC 27705

North Carolina Collection
Wilson Library 024-A
UNC-CH
CAROLINA CAMPUS

IS YOUR LABEL CORRECT?



the fungifile

Newsletter of the Triangle Area Mushroom Club

P.O. 17061, Durham, North Carolina 27705

Volume 5 Number 3

May/June 1986

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 Mary Aycock: Rt. 2, Box 103, Warrenton, NC 27589..257-1826
 Program Coordinator: Tom Krakauer: Rt. 2, Box 377C, Bahama, NC 27503
471-9459

MARK YOUR CALENDAR Meetings

Meetings are generally held on the second Monday of the month.
 PLEASE NOTE: Tom Krakauer agreed to coordinate meetings under the proviso that other members arrange individual meetings. As of this writing, only Bill Burk has volunteered to set up meetings.

May 12: "Toxic and Hallucinogenic Mushrooms" NAMA slide/tape show back by popular demand. Illustrates and describes the effects of ingesting toxic mushrooms; covers the seven known mushroom toxins and their chemical make-up and effects on humans. Meeting at 7:30 pm in room 143, Jones Building, Duke West Campus, Durham. See map, p30.

June 9: Rick Sloane, MS Degree student of Crop Science at NCSU, will talk about research into agricultural uses of mycorrhizal fungi. Meeting at 7:30 pm at the NC State Museum of Natural History, Raleigh. See map, p30.

Forays

FORAY POLICY: Deluge/Drought Policy: Normally, we will go out in the rain. However if there is exceptional rain on the morning of the foray, call the contact person to find out if the foray is cancelled. Dry conditions, leading to frustrating hunts for non-existent fungi, have proven to be more of a major problem in this area. If you think there is any chance that it has not rained at the site for some time previous to the scheduled date, call the contact person, foray leader, or foray chairpeople within 72 hours of the foray to find out if it will be cancelled.

Take off time from meeting place is 10 am. If you would prefer to

meet us at the foray site, call contact person for directions. Bring lunch! Also basket, waxed paper or bags, knife, field guide, & whistle.

Meeting places: Texaco Station: University Mall parking lot in Chapel Hill, corner of Estes Dr. & 15-501 Bypass.

Battle Park: From 15-501 Bypass in Chapel Hill, take 54W (Raleigh Rd.), and turn right at first light on to Country Club Rd. Pass Forest Theater on right, then turn right on Boundary St. Park in small picnic area parking lot on right, behind Forest Theater.

Scott Building: State Fairgrounds in Raleigh (off Blue Ridge Road), across from Flea Market.

Foray chairs are Dianne Berg and Mary Aycock (phone numbers above).

May 10: NOTE CHANGE: Schenck Forest, Raleigh. Meet at Scott Building. The Schenck Forest is abandoned field covered with loblolly pine, yellow poplar, gum, and oak.

May 18: Battle Park, Chapel Hill. Technical leader Bill Burk (942-6387).

June 7: Battle Park, Chapel Hill. Technical leader Owen McConnell (477-5178).

June 29: Saralyn area, Pittsboro. Some of our most successful forays have been here in Wally Kaufman's stomping grounds. Meet at Texaco Station. Foray leader and contact person, Wally (542-4072).

July 12: Schenck Forest, Raleigh. Meet at Scott Building. Technical leader Jack Billman (779-2419). Come prepared with food for a barbecue after the foray. Carl Rich will provide grill and ice!

July 20: Busick, NC. Land of Dianne and Doug Berg near the base of Mt. Mitchell in the South Toe River Valley. Come the day before and bring a sleeping bag. Details later.

August 9: Battle Park, Chapel Hill.

August 17: Kerr Lake.

September 6: Battle Park, Chapel Hill.

September 24: Mary and Ninian Beall's in Oxford.

October 5: Battle Park, Chapel Hill.

October 18: Haw River/Jordan Lake area.

Impromptu Forays

by Ed Haynes

This system depends on someone initiating impromptu forays. No one is designated as initiator, so it is incumbent upon the membership (you!) to notice when and where mushrooms are up, and to start the notification process by calling Ed (493-7703) or one of the officers. Remember, this is a crucial step in the project, and the success of impromptu forays depends on you.

IF YOU ARE INTERESTED IN BEING NOTIFIED OF IMPROMPTU FORAYS, AND ARE WILLING TO PARTICIPATE IN THE PHONE TREE TO NOTIFY OTHERS, SEND A POSTCARD TO ED HAYNES (3447 Hope Valley Rd., Durham, NC 27707). List phone numbers and times at which you are most likely to be reached.

Battle Park

by Dianne Berg

Because of its central location, we have decided to hold monthly forays in Battle Park this season. The park is named for Kemp P. Battle, University President from 1876-1891. It consists of about 66

acres acquired as part of an original grant to the University in 1793 by Hardy Morgan. Since 1796 the entire area has been used only as a park. Perhaps this is the reason we have found it such a rewarding place for our forays. It was used extensively for study by William C. Coker and provided a number of type specimens.

There is a high proportion of white oak throughout the park, probably because all the large trees of any other type were removed by Professor William Hooper between 1832 and 1836. Except for this logging and the harvesting of pines in 1972 after an infestation of southern pine bark beetle, the vegetation has remained largely undisturbed since 1793. The uplands are primarily mature mixed oak and other hardwoods while beech and tulip poplar border the slopes along Battle Brook which runs through the park. So join us in Battle Park this season and enjoy the beautiful trails and plentiful mushrooms.

(The information for this article came from The Journal of the Elisha Mitchell Society: 95 (1), 1979, pp. 1-16; and A Floristic Catalog of Battle Park, University of N.C. Campus, Chapel Hill. I. Bryophyta, by Robert Solberg and Norton G. Miller.)

Correction

Foray Chair Mary Aycock's phone number was incorrectly listed on the bottom of the TAMC Calendar included with the last Fungifile. Please cross out the number and replace it with 257-1826, so you don't bother our previous Foray Chair (he's done enough work already.) Sorry.

Refreshments

Mary Beall is our new refreshment coordinator for meetings. Please call her at 693-1339 if you would be willing to occasionally supply refreshments. And many thanks to David Higgins for doing this job for the past several years!

deCurrent Events

July 19-August 2: NATURAL HISTORY & MUSHROOM STUDY TOUR OF COSTA RICA led by David Arora (Mushrooms Demystified), Gary Lincoff (Audubon Guide), and Dr. Emanuel Salzman. Explore and collect in a variety of life zones/habitats in Costa Rica, including the famous Monteverde Cloud Forest, the mushroom rich highland oak forests near Cartago, the lowland evergreen forest at Santa Rosa National Park, and the luxuriant vegetation about the Poas Volcano. The mushrooms of the oak forests include a number of familiar Amanitas and an often abundant, diverse and unusual bolete flora, while the cloud/rain forest and lowland mushrooms include many tropical exotics. Contact Emanuel Salzman, c/o Fungophile, P.O.Box 5503, Denver, CO 80217-5503. (303) 296-9359.

July 25-27: Elkins, WV: WILD MUSHROOM workshop led by Bill Roody, as part of Augusta Heritage Arts Festival. Introduction to the lore and uses of edible and other wild mushrooms; includes slide/talk, field trips, and cooking and tasting sessions. \$55 tuition. For info, contact Joan Zeller, or write Augusta Heritage Center, Davis

& Elkins College, Elkins WV 26241.

August 14-17: North Adams, Mass.: NORTHEASTERN MYCOLOGICAL FORAY

August 20-September 4: NAMA NORWEGIAN FORAY. Collecting & sightseeing in Norway, Sweden and Denmark. Led by Oron & Hope Miller. Cost: \$2,595 from New York. For information, write: S. Wiideman, SAS Consultant, Box 22, Brooklyn, MI 49230. (517) 592-5827.

August 21-24: Telluride, CO.: 6th annual TELLURIDE MUSHROOM CONFERENCE. Sessions on The Zombi Phenomenon in Haiti, mushroom identification, psychoactive mushrooms, the use of psychoactive plants in shamanistic medicine, mushroom cultivation, and tree/mushroom connections. The forests surrounding Telluride are generally productive of a wide variety of wild mushrooms, particularly the edible species. Daily forays will be led by experienced guides into the surrounding mountains. Contact Emanuel Salzman, c/o Fungophile, P.O. Box 5503, Denver CO 80217-5503. (303) 296-9359.

September 5-7, 1986: Terra Alta Mountain Camp, Terra Alta, West Virginia: MUSHROOM WEEKEND. Led by Walt Sturgeon, Bill Roody (familiar to Fungifile readers), and Bill Beatty, Oglebay Institute Naturalist. Program will include field trips for collection and study, display of identified mushrooms, sessions on mycophagy and distinctive edible species, toxic & hallucinogenic species, and observation of luminescent mushrooms. Cost is \$60 per person, including meals and tent or camping vehicle space. Limited space is available in tents at the camp, and nearby motel accommodations are also available. For more information, write Nature Education Department, Brooks Nature Center, Oglebay Park, Wheeling, WV 26003. (304) 242-6855.

September 29-October 17, 1986: MUSHROOM STUDY TOUR OF SOUTHEAST ASIA led by Gary Lincoff, Emanuel Salzman, and Andrew Weil. The group will tour the major cities and hill stations of Southeast Asia, and foray in surrounding forests known for luxurious mushroom growth. The hill stations are the beautiful old British summer resorts of colonial days. Visit and foray in Bangkok and Chang Mai where Roger Heim studied the mushroom flora of Thailand; in Borneo in the ancient rainforests along the Rajang River and on Mount Kinabalu where E.J.G. Corner collected the boletes reported in Boletus Malasia; and in Singapore, the "Garden City" of Southeast Asia. (An 8-day mushroom tour of Burma will be offered as an optional extension.) For information write to Emanuel Salzman, c/o Fungophile, P.O. Box 5503, Denver, CO 80217-5503. (303) 296-9359.

Mushroom Toxicity

by Joan Zeller

The National Clearinghouse for Poison Control Center in Washington, D.C. receives about 350 mushroom poison reports a year (about 1% of its total reports). This figure is much lower than the actual number of incidents because many incidents are too mild to warrant medical intervention, mushroom etiology is not always obvious, and there is no systematic method for reporting (see below).

Who is being poisoned? According to an article entitled "Beware the Wild Mushroom" which appeared in the October 1985 issue of Emergency Medicine, 70% of the victims are children, presumably accidental ingestions. The adults are either looking for psychedelic or exotic gastronomic experiences and mistake toxic species for those they think they

are eating - if, indeed they are even looking for specific mushrooms. Often they eat mushrooms that look like they "should" be good to eat, or because the mushrooms superficially resemble store mushrooms, and the victims often have not studied mushrooms or even consulted field guides. According to Gary Lincoff, these victims are not usually members of mushroom clubs (who tend to be a bit more systematic and careful in what they choose to eat). But we can only be as careful as the data we have allows us to be. This body of knowledge must be expanded, and to this purpose, the North American Mycological Association established the Mushroom Poisoning Case Registry under the direction of Dr. Kenneth Cochran of the University of Michigan. Reporting is done voluntarily (and therefore sporadically) by health care providers, clubs, or individuals taking the initiative to complete the form included with this newsletter. Since our knowledge of mushroom toxicity is far from complete and little, if any, formal field research is ongoing, reports such as these are extremely important, and we urge members to participate.

After all, we are the folks most regularly doing the "experimenting" (based on sometimes conflicting data from guide books, second table below), and we are the ones who will benefit when this new information appears in future guidebooks. So please take part in this ongoing survey. If you experience any unpleasant side effects, however mild, from your mushroom encounters, please complete and return the form. Additional forms are available from TAMC and from Dr. Kenneth W. Cochran, Department of Epidemiology, SPH I, University of Michigan, Ann Arbor, MI 48109-2029.

The following tables are from the MPCR's July 1985 report, covering cases collected from July 1984 through June 1985.

CASES REPORTED TO MPCR JULY 1984 through JUNE 1985

Species	Cases	Species	Cases
Agaricus hondensis	1	Gyromitra esculenta	7
Amanita bisporigera (fatal)	1	Lactarius chelidonium	2
Amanita muscaria	3	Lepiota rachodes	1
Amanita pantherina	4	Lepiota rubrotincta	2
Amanita rhodadai	1	Leucoagaricus naucinus	3
Amanita smithiana	1	Nivatogastrium wrightii	1
Amanita triangulibulbosa	1	Phaeolepiota aurea	1
Amanita virosa	2	Pholiota squarrosa	1
Amanita virosa?	2	Pleurotus ostreatus	2
Armillaria mellea	6	Pailocybe cubensis (1 fatal)	2
Boletus regius	1	Pailocybe semilanceata	1
Boletus rubroflammeus	1	Rhodocybe nitellina	1
Boletus satanas	1	Russula occidentalis	2
Boletus sp.	1	Scleroderma cepa	1
Chlorophyllum molybdites	12	Scleroderma citrinum	2
Clitocybe sp.	1	Sp. unknown	7
Clitocybe sp.?	1	Suillus albidipes	1
Collybia acervata	4	Suillus brunneascens	1
Craterellus cornucopioides	2	Tricholoma pessundatum	1
Entoloma bahusianse	1	Tylopilus eximius	1

"...A major intention when the NAMA trustees established the Registry was to collect data on species whose toxicity was unknown or uncertain. To assess the Registry's activities in this regard, a consensus of toxicity or edibility for selected species was derived by a semi-qualitative rating based on the mushroom manuals of Miller, Mushrooms of North America; Smith and Weber, Mushroom Hunter's Field Guide (3rd ed.); and Lincoff, The Audubon Society Field Guide to North American Mushrooms. These particular references were selected because of their wide distribution and use. [The following table] summarizes Registry reports on selected species with 2 or more reported cases, usually where the consensus rating showed divergent or absent conclusions on toxicity. Prager et al. (Mycopathologia 85:175, 1984) only recently reported the toxicity of Suillus luteus, confirmed by reports to the Registry of cases occurring in 1968, 1982, and 1983. In Toxic and Hallucinogenic Mushroom Poisoning, Lincoff and Mitchel characterized Panaeolus foenisecii as being hallucinogenic in eastern United States, whereas the Registry's reports involved cases all west of the Mississippi."

COMPARISON OF FIELD GUIDE CONSENSUS AND REGISTRY REPORTS

Species	Consensus			Registry Reports
	M*	S	L	
Leucoagaricus naucinus	+2c	-1c	+2c	Caution confirmed
Gyromitra esculenta	+2	-2	-3	Toxicity confirmed
Suillus luteus	+3	+3	+3c	Toxicity confirmed
Collybia acervata	?	-2	0	Severe GI toxicity
Lactarius chelidonium	0	n	n	Probably toxic
Lepiota rubrotincta	n	+2?	0	GI toxicity
Panaeolus foenisecii	-2H	n	n	CNS toxicity, incl. U.S. west
Phaeolepiota aurea	+2?	n	-1	GI toxicity
Psilocybe semilanceata	n	n	H	CNS toxicity
Russula occidentalis	n	n	n	GI toxicity
Many "edible" species	all	+2, +3		Sometimes toxic, especially if raw or with alcohol

*Consensus based on Miller (=M), Smith & Weber (=S), Lincoff (=L):

-3 = deadly

-2 = toxic

-1 = unpleasant or not recommended

0 = toxicity not cited

+1 = nonpoisonous

GI = gastrointestinal

+2 = edible

+3 = edible and good

c = caution

H = hallucinogenic

n = species not listed

CNS = central nervous system

Further notes from the Emergency Medicine article, "Beware the Wild Mushroom":

Gyromitrin, the toxin in the genus Gyromitra and possibly in some species of Helvella, Verpa, Morchella, Peziza, Disciotia, and Sarcosphaera, is a precursor of the rocket fuel component monomethylhydrazine. Mushrooms containing gyromitrin are thought to be toxic sauteed, and with their broth, as well as raw, although individual susceptibilities vary. Only 20 cases have been reported in North America since 1900, but 10 of these were fatal.

The "Antabuse-like" reaction (caused by mixing the toxin coprine with alcohol) associated with Coprinus atramentarius has also been reported from C. micaceus, C. insignis, C. fuscescens, and Clitocybe clavipes. Again, susceptibilities vary, and reaction depends also on the amount of toxin ingested and blood alcohol level. Symptoms can appear as early as 30 minutes after the meal, or as late as 4 to 5 days. It is also possible to have a reaction from alcohol consumed before the mushroom meal.

Mushrooms That Bloom in the (Late) Spring (Tra-la!)

by Ed Haynes

Based on the foray lists compiled by the TAMC and by individual members (especially by Owen McConnell), it is possible to give some hints as to what mushrooms we might be finding over the next several weeks. I have taken a somewhat broad definition of "spring," and you might be finding these through, say, late June. Good hunting!

Agaricus silvicola	Amanita caesarea
Amanita flavoconia	Amanita flavorubescens
Amanita fulva	Amanita gemmata
Amanita inaurata	Amanita muscaria
Amanita parcivolvata	Amanita rubescens
Amanita sprete	Amanita vaginata
Amanita virosa	Auricularia auricula
Boletellus betula	Boletus eastwoodiae/satanus
Boletus frostii	Boletus retipes
Cantharellus cibarius	Clitocybe ??
Clavaria byssoidea	Clavaria stricta
Clavaria vermicularis	Clitocybe gibba
Coriolus versicolor	Craterellus fallax
Favolus alveolaris	Galiella rufa
Humaria hemisphaerica	Hygrophorus miniatus
Hygrophorus conicus	Hygrophorus nitidus
Hygrophorus ruber	Laccaria laccata
Lactarius camphoratus	Lactarius corrugis
Lactarius piperatus	Lactarius vellereus
Lactarius volemus	Lactarius volemus var. flavus
Leotia lubrica	Lepiota seminuda
Leucopaxillus candidus	Lycoperdon perlatum
Omphalotus olearius	Oudemansiella radicata
Paxillus atrotomentosus	Phylloporus rhodoxanthus
Pleurotus ostreatus	Pluteus cervinus
Russula aeruginea	Russula emetica
Russula fragrantissima	Russula rosacea
Sarcoscypha occidentalis	Sarcoscypha coccinea
Schizophyllum commune	Strobilomyces confusus
Strobilomyces floccopus	Tylopilus felleus
Xeromphalina campanella	

Fungi in the Seas and Estuaries: April Meeting

by Bill Burk

Marine mycology is one of the least known and appreciated fields in the study of fungi. Jan Kohlmeyer, world authority on marine fungi at

UNC's Institute of Marine Sciences at Morehead City, helped dispel our ignorance of the marine fungi with a slide/lecture program, April 14th in Coker Hall, UNC. Jan began his presentation with some background information on his mycological experiences in Berlin. Jan's first mycological research involved the organization of the fungal herbarium of the Botanical Museum, Berlin-Dahlem, which had been seriously damaged during World War II. During the reconstruction of the herbarium an exciting discovery of the long-lost herbarium of W.G. Lasch was made. This collection consisted of mostly Fungi Imperfecti, still wrapped in newspapers of a hundred years ago. Additional mycological activities at the Museum included mushroom identifications in the fields and woods, and verifying mushroom species in collectors' baskets. At times it was a trying experience to convince collectors that every mushroom specimen had to be inspected. There were occasions when a mushroom hunter would have one poisonous specimen hidden in the bottom of the collecting basket.

Fortunately for the mycological community Jan's next position, a post-doctorate at a laboratory for testing materials to study fungi infecting wood, led him to his present research of the marine fungi. Although Jan's boss discouraged him from studying marine fungi, Jan would make his way back to the lab at night to fulfill his curiosity. In 1963, Jan accepted a position at the Beaufort lab in NC and then in 1964, his position in Morehead City.

Marine fungi are microscopic and predominately members of the Ascomycetes and Fungi Imperfecti, although four are Basidiomycetes (including the largest species of the marine fungi, which is one inch in diameter). These fungi are economically important as they first colonize wood which is then invaded by larvae of ship worms. Spores of marine fungi appear beautiful and graceful, with hair-like appendages radiating from them which aid in their floating, and for attaching to wood. Some of Jan's research takes him to various parts of the world. In Belize he is studying the effects of pollution on the growth of marine fungi.

Many species of terrestrial plants have been screened as possible sources of antibiotic and anti-cancer compounds, but only recently have investigators looked to the marine fungi as a source for such substances.

To Jan we are all grateful and appreciative for his enlightening and interesting talk which introduced us to the world of marine fungi.

(Jan has published nearly 100 journal articles on the marine fungi and his books include Marine Mycology, published by Academic Press, 1979.)

Mushroom Stamps Free!!

Many countries, such as those in mycophagous Eastern Europe, have issued stamps depicting mushrooms in order to educate the public about safe and poisonous mushrooms, and to show the beauty of fungi. Although the U.S. has never issued such stamps, many of our fungi are indigenous to other countries and appear on their stamps. Collecting mushroom stamps is a good way to reinforce recognition of these species, and also to learn other mushrooms not found here.

TAMC member Bill Long has generously donated to the club several packets containing a treasure of beautiful mushroom stamps. These are yours for the asking! Collect them yourself, or introduce a young

friend to the joys of stamp collecting and the world of mushrooms. Contact Joan if you are interested. And write to Bill (Star Route, Afton, MI 49705) for new issue and price list. (Thanks, Bill!)

Mushroom Cookbooks

Two new cookbooks are on the market. The first is the long awaited Joe's Book of Mushroom Cookery by Jack Czarnecki of Joe's Restaurant in Reading, Pennsylvania (See the Jan/Feb 1984 Fungifile), published by Atheneum this month. The book contains 352 pages of over 300 recipes, including 8 pages of color photos. According to a flyer from Jack, the book is "...a very personal approach to cooking, preserving, and using various forms of different mushrooms. It in no way attempts to be the end-all, most complete book of mushroom cookery, but rather emphasizes principles of mushroom cookery, then uses recipes to illustrate those principles...There is special emphasis on using dried mushrooms..." Books are \$20.95 plus \$2.50 shipping & handling from: Jack Czarnecki, Joe's Restaurant, 450 South Seventh Street, Reading, PA 19602.

If You Can't Eat Your Mushroom, Take it Dancing is the title of another book, by Shea Moss distributed by the Fungus Federation of Santa Cruz. It features international gourmet recipes, computer graphics, curious commentary and more, according to the Jan/Feb NAMA Mycophile. Send \$4.00 plus \$.75 postage to the Fungus Federation, c/o Santa Cruz City Museum, 1305 East Cliff Drive, Santa Cruz, CA 95062.

Researchers Grow Bigger, Better Basidiomycetes

(April Fool's)

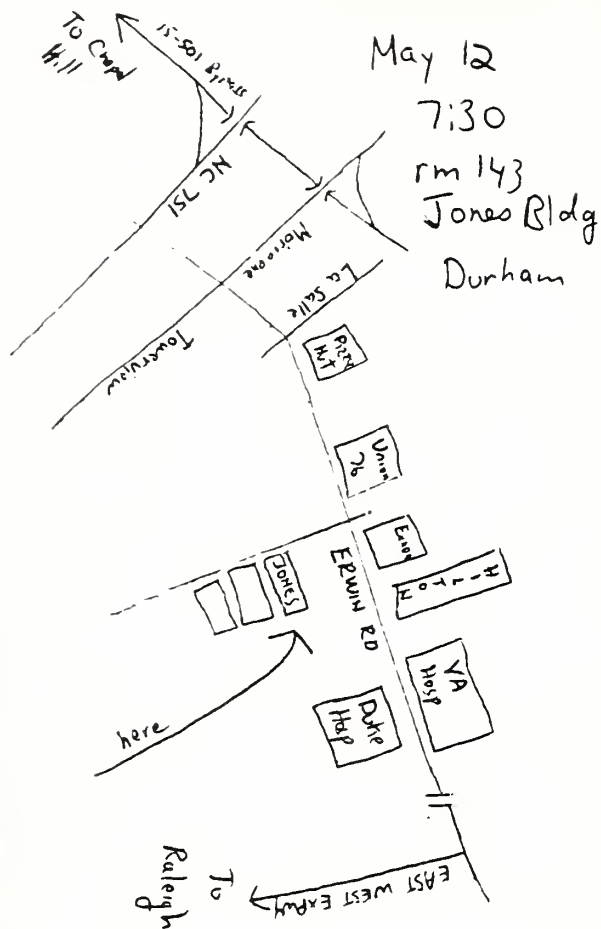
[This was the cover story of the 4/1/86 edition of RTItems, published by Research Triangle Institute.]

After months of R&D, RTI scientists announced a new, overnight method of growing mammoth mushrooms last week. Those involved with the project say the most apparent application of this technological breakthrough is to use the mushrooms in our state and national parks as instant picnic shelters. Others suggest their convenience for large family gatherings such as wedding receptions, reunions and even church outings.

"What we've done is, simply, to create a method by which we stimulate the growth of the mushroom's mycelium," said one researcher. "These fungi will grow overnight to heights of eight feet or more in any soil, and grow year-round, unlike your typical toadstool. All you have to do is plant our treated spores the day before you need a shelter. You could say RTI is now in the business of building bigger, better, basidiomycetes."

Scientists predict the chief advantage of using their new procedure to grow mushrooms for picnic shelters is that mushrooms are biodegradable. "After the picnic, the area's back to nature," said another researcher. "The beauty of the area won't be marred by manmade shelters once our method catches on."

Spore packets will be available in limited quantities next year once RTI's patent application is approved. Meanwhile, specialists in our Marketing Support Office are testing for product demand. Several commercial companies such as Green Giant and Campbell's have expressed interest in RTI's research.



JUNE 9 7:30
* NC State Museum
of Natural
History

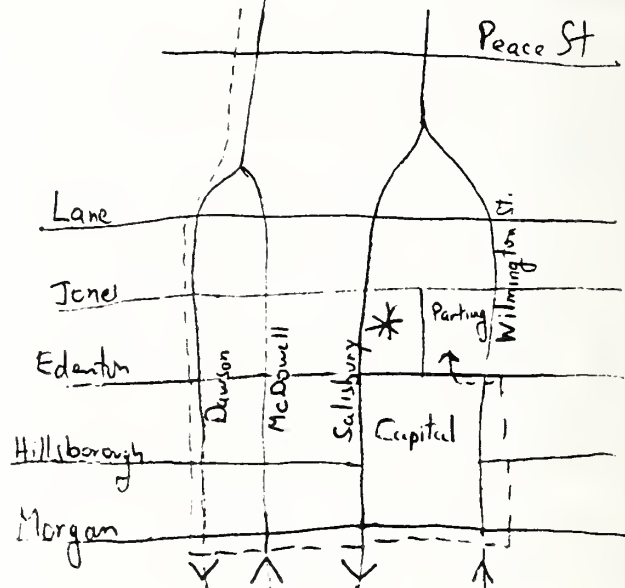
Raleigh

I-40
To
Chapel
Hill,
Durham

Wade Ave

Downtown Bld

From I-40 take
Wade Ave exit &
follow signs to Civic
Center. This will get
you onto Downtown Bld



Triangle Area Mushroom Club
Box 17061
Durham, NC 27705

PRAY FOR
RAIN!

IS YOUR LABEL CORRECT?

NORTH AMERICAN MYCOLOGICAL ASSOCIATION—MUSHROOM POISONING REPORT FORM

THIS IS ONLY A REPORTING FORM: FOR EMERGENCY TREATMENT, CONTACT YOUR PHYSICIAN, NEAREST POISON CENTER OR HOSPITAL EMERGENCY ROOM

Please answer all the questions on this form by checking the appropriate box or by writing in the information requested, using a separate form for each person. Please check the "don't know" box if you do not know the answer.

I. Name of person filling out this form: _____

Address: _____

Telephone: () _____
This form is about: _____

myself ☐ patient ☐ student ☐ club member ☐ other ☐

II. About the incident: Don't Know

A. Was mushroom eaten RAW ☐ or COOKED ☐ ☐

B. How much mushroom was eaten? _____ ☐

C. Was mushroom eaten: by a child ☐, accidentally ☐,
for food ☐, intentionally for recreation ☐ ☐

D. Was mushroom eaten at more than one meal? Yes ☐ No ☐ ☐

E. Was more than one kind of mushroom eaten? Yes ☐ No ☐ ☐

F. When was mushroom collected? _____ Where? _____ ☐

G. When was mushroom eaten? Date _____ Time _____ ☐

H. When was the first sign of illness? Date _____
Time _____ Onset interval: _____ hours ☐

I. Was any alcohol consumed with or within 24 hours after mushroom
was eaten? Yes ☐ No ☐ ☐

J. How many persons ate mushrooms? _____ ☐

K. Were all persons who ate mushrooms ill? Yes ☐ No ☐ ☐

L. Were persons in the group who did not eat mushrooms ill?
Yes ☐ No ☐ ☐

III. What were symptoms of poisoning? Check all symptoms listed below:

☐ Nausea	☐ Salivation	☐ Intestinal Cramps	☐ Flushing
☐ Vomiting	☐ Chills	☐ Muscle Spasm	☐ Drowsy
☐ Diarrhea	☐ Rash	☐ Hallucination	☐ Dizzy
☐ Sweating	☐ Weakness	☐ Disoriented	

Don't Know

Were there other symptoms? Yes ☐ No ☐ ☐

What were the other symptoms? ☐

Don't Know

B. Did person ever eat this mushroom before? Yes ☐ No ☐ ☐

C. Were the effects the same? Same ☐ Different ☐ ☐

Some same, some different ☐

What were the different effects? ☐

D. Was treatment given? Yes ☐ No ☐ ☐

What was the treatment ☐

What were the results of treatment? ☐

Case/chart number (if available) _____ (important for follow-up)

Patient age ☐ Patient's sex ☐

Patient's name (optional) _____

IV. About the mushroom:

A. Name the species of mushroom _____ ☐

B. Who identified the species? _____ ☐

Herbarium specimen number (if available) _____

C. Were any special mushroom tests done? Yes ☐ No ☐ ☐

List the tests and results: ☐

V. Other comments about the case or the mushroom; or attach separate note.

Please send completed form to: Dr. Kenneth W. Cochran
Department of Epidemiology, SPH I
University of Michigan
Ann Arbor, Michigan 48109-2029

Please duplicate if additional copies are needed, or request copies from the above address or by telephone to (313) 764-5469, 764-5453, or 971-2552.

4IV85

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the fungifile

Newsletter of the Triangle Area Mushroom Club

P.O. 17061. Durham, North Carolina 27705

Volume 5 Number 4

July/August 1986



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MARK YOUR CALENDAR

Meetings

September: Dr. Larry Grand, guest speaker. Details in next issue.

Forays

FORAY POLICY: Deluge/Drought Policy: Normally, we will go out in the rain. However if there is exceptional rain on the morning of the foray, call the contact person to find out if the foray is cancelled. Dry conditions, leading to frustrating hunts for non-existent fungi, have proven to be more of a major problem in this area. If you think there is any chance that it has not rained at the site for some time previous to the scheduled date, call the contact person, foray leader, or foray chairpeople within 72 hours of the foray to find out if it will be cancelled.

Take off time from meeting place is 10 am. If you would prefer to meet us at the foray site, call contact person for directions. Bring lunch! Also basket, waxed paper or bags, knife, field guide, & whistle.

Meeting places: Texaco Station: University Mall parking lot in Chapel Hill, corner of Estes Dr. & 15-501 Bypass.

Battle Park: From 15-501 Bypass in Chapel Hill, take 54W (Raleigh Rd.), and turn right at first light on to Country Club Rd. Pass Forest Theater on right, then turn right on Boundary St. Park in small picnic area parking lot on right, behind Forest Theater.

Scott Building: State Fairgrounds in Raleigh (off Blue Ridge Road), across from Flea Market.

Foray chairs are Dianne Berg and Mary Aycock (phone numbers above).

July 12: Schenck Forest, Raleigh. Meet at Scott Building. Technical leader Jack Billman (779-2419). Come prepared with food for a barbecue after the foray. Carl Rich will provide grill and ice!

July 20: Busick, NC. Land of Dianne and Doug Berg near the base of Mt. Mitchell in the South Toe River Valley. Come the day before and bring a sleeping bag. Call Dianne (933-9628) by July 13 for directions and details.

August 9: Battle Park, Chapel Hill. Foray leader Bill Burk (942-6387).

August 17: Kerr Lake. Meeting time 9:30 am at Edison Johnson Community Center, 600 W. Murray Ave., Durham (take Duke St./Roxboro exit off of I-85 near Northgate Shopping Center & go north; turn right on to Murray at second light). We will carpool to Kerr Lake, about an hour's drive. Site leader, Mary Aycock (257-1826).

September 6: NOTE CHANGE: Saralyn area of Pittsboro. Reschedule of June 29. Meet at Texaco Station 10 am. Leader Wally Kaufman (542-4072).

September 27: (NOTE: wrong date listed last issue.) Mary and Ninian Beall's in Oxford.

October 5: Battle Park, Chapel Hill.

October 18: Haw River/Jordan Lake area.

Impromptu Forays

by Ed Haynes

This system depends on someone initiating impromptu forays. No one is designated as initiator, so it is encumbant upon the membership (you!) to notice when and where mushrooms are up, and to start the notification process by calling Ed (493-7703) or one of the officers. Remember, this is a crucial step in the project, and the success of impromptu forays depends on you.

IF YOU ARE INTERESTED IN BEING NOTIFIED OF IMPROMPTU FORAYS, AND ARE WILLING TO PARTICIPATE IN THE PHONE TREE TO NOTIFY OTHERS, SEND A POSTCARD TO ED HAYNES (3447 Hope Valley Rd., Durham, NC 27707). List phone numbers and times at which you are most likely to be reached.

deCurrent Events

July 19-August 2: NATURAL HISTORY & MUSHROOM STUDY TOUR OF COSTA RICA Details in May/June Fungifile. Contact Emanuel Salzman, c/o Fungophile, P.O.Box 5503, Denver, CO 80217-5503. (303) 296-9359.

July 25-27: Elkins, WV: WILD MUSHROOM workshop led by Bill Roody, as part of Augusta Heritage Arts Festival. Introduction to the lore and uses of edible and other wild mushrooms; includes slide/talk, field trips, and cooking and tasting sessions. \$55 tuition. For info, contact Joan Zeller, or write Augusta Heritage Center, Davis & Elkins College, Elkins WV 26241.

August 14-17: North Adams, Mass.: NORTHEASTERN MYCOLOGICAL FORAY. Principal mycologists Dr. Orson Miller Jr. and Dr. Harry Thiers. Other mycologists include Drs. Alan Bessette, William Bridge Cooke, David T. Jenkins (Amanitas of North America), Ronald Petersen, Roger Phillips (Mushrooms and Other Fungi of Great Britain and Europe), Sam Riatich, Walt Sturgeon, and Rodham Tulloss. Fee of \$140 includes double room accomodations, meals from Thursday dinner through Sunday brunch, lectures, forays and foray transportation. (Cost for all activities but no room and board is \$40.) Send to Pat and Jim Kronick, PO Box 533, Merrick, NY 11566. For more info, call Joan (383-7154).

August 20-September 4: NAMA NORWEGIAN FORAY. Collecting & sightseeing

in Norway, Sweden and Denmark. Led by Orson & Hope Miller. Cost: \$2,595 from New York. For information, write: S. Wiideman, SAS Consultant, Box 22, Brooklyn, MI 49230. (517) 592-5827.

August 21-24: Telluride, CO.: 6th annual TELLURIDE MUSHROOM CONFERENCE. Details in May/June Fungifile. Contact Emanuel Salzman, c/o Fungophile, P.O. Box 5503, Denver CO 80217-5503. (303) 296-9359.

September 5-7, 1986: Terra Alta Mountain Camp, Terra Alta, West Virginia: MUSHROOM WEEKEND. Details in May/June Fungifile. For more information, write Nature Education Department, Brooks Nature Center, Oglebay Park, Wheeling, WV 26003. (304) 242-6855.

September 25-28, 1986: Priest Lake, Idaho: NAMA/SMC INLAND PACIFIC NORTHWEST AMATEUR FORAY. For information write: Spokane Mushroom Club, Inc., P.O. Box 2791, Spokane, WA 99220.

September 29-October 17, 1986: MUSHROOM STUDY TOUR OF SOUTHEAST ASIA. Details in May/June Fungifile. For information write to Emanuel Salzman, c/o Fungophile, P.O. Box 5503, Denver, CO 80217-5503. (303) 296-9359.

An Editor's Farewell

by Joan Zeller

The Fungifile has come a full circle. When Bill Burk and I started the Triangle Area Mushroom Club almost 4 years ago, we began co-editing the newsletter. Marathon typing sessions...trying to coordinate from our two typewriters so that his page would end where mine began...retyping entire pages because of missed words...twenty minute discussions over whether or not to put in a comma (two perfectionists working together can be hell). After a year, as Bill's other responsibilities required more of his time, I took over the newsletter (by the 12th issue, actually acknowledging myself as editor!). Luckily, I discovered the world of computers, and gave up being a perfectionist, or The Fungifile would never have made it out every two months.

Working on The Fungifile has been a growing experience for me. I've learned a lot, about mushrooms and newsletters, and had lots of fun. I appreciate all the help, encouragement, and wonderful feedback that I've gotten from so many of you. Hopefully, I've helped you to enjoy and learn about mushrooms. Now, 24 issues from the beginning, I find that it is time to move on, and I am passing the task back to Bill. Bill has good resources to draw on, but he is going to need your help. Please extend to him the same support you gave me.

May Meeting

by Sam Baron

The May meeting of the club was held on the 12th at Jones Building on the Duke Campus. Jacques Poirier, club president, discharged a number of items of business before proceeding to the evening's program. To the general consternation, it was announced that club founder and dedicated sustainer Joan Zeller would be leaving our area in the fall for Rochester, NY. (The rest of the evening was punctuated with lamentations, well-deserved praise for Joan, and pleas that she stay on, but good reasons make her decision irrevocable.) Bill Burk will take over as editor of The Fungifile in August, and he has asked for assistance in getting out the newsletter. Sam Baron and Mary Aycock offered to look into how they might help. Others are invited to do the same, in order

to keep our excellent publication coming along at the high standard Joan has conditioned us to expect.

Joan distributed to interested persons collections of foreign stamps featuring mushrooms (compliments of Corresponding Member Bill Long), and also announced the publication of Joe's Mushroom Cookbook.

We then witnessed a NAMA slide and audio tape show: "Toxic and Hallucinogenic Mushrooms" by Dr. Michael Beug. The show presented over seventy excellent slides, accompanied by informative comments on the toxic components and effects of the mushrooms depicted. It turns out that very many mushrooms other than amanitas may be damaging. These even include some edibles if they are eaten raw, in unduly large amounts, or under other specified conditions. Not unexpectedly, Dr. Beug advised extreme caution in ingesting mushrooms, particularly if those in question are not entirely familiar.

There followed delicious refreshments -- homemade ice cream, fresh strawberries, and cookies. The accompanying conversation focused mainly on the disconcerting news of Joan's impending departure.

June Meeting Highlights: Agricultural Uses of Endomycorrhizal Fungi

by George Hrepta

Despite a light turn-out at the June 9 meeting at the North Carolina State Museum of Natural History, an interesting set of topics was discussed.

Jacques Poirier announced that the impromptu foray calling tree has not as yet been established. Ed Haynes is working to complete this soon.

The first official case of potential accidental mushroom poisoning occurred in the Chapel Hill area recently. Bill Burk was contacted by the father of a one year old child. From the pieces, Bill was able to identify the mushroom as either Amanita umbonata (aka caesarea), an edible species, or Amanita parvisolvata, of unspecified edibility. It was most likely A. parvisolvata, since Bill could find no ring, and the gills were mealy. The father was advised to give the child syrup of ipecac to induce vomiting, but the child refused it. The emergency room physician was apparently unconcerned about this fact, as the only amanita which worried him was A. muscaria, and this species had been ruled out. There was no direct communication between Bill and the emergency room. Obviously better communication and education of the medical community is indicated. Fortunately, the child appeared to have suffered no ill effects, to Bill's knowledge.

A lecture and slide show by Rick Sloane, currently a graduate student in the Crop Science Department at North Carolina State University, was presented. It was titled "Agricultural Uses of Mycorrhizal Fungi" and dealt with fungal and floral symbiotic relationships occurring in plant root systems. Specifically, Rick talked about endomycorrhizal fungi, which actually invade the plant's root cells, and are not known to produce terrestrial fruiting bodies. (Ectomycorrhizal fungi, on the other hand, form mycelial mantles around the root systems. To this group belong many of the fungi with which we are most familiar, such as amanitas and russulas.)

TAMC members were informed that there are many types of fungi in common soils. Many annual and perennial root systems harbor fungal species that enhance the ability of these plants to utilize water sol-

uble phosphates. These phosphates are necessary for proper plant growth and health.

In areas where little, if any, phosphate bearing fertilizer is used, soil phosphate levels are sometimes naturally quite low. Most useable phosphates are derived from underlying parent material rock and organic debris that finds its way into the soil. If these sources are low in phosphate, certain types of plants may not grow very well, if at all, were it not for the presence of large numbers of various types of fungi in their root systems. These fungi invade the root systems of their respective hosts by penetrating the root walls, and colonizing the outer cortex of the host root tissue. Spores are disseminated into the rhizosphere around the root.

As the fungi grow and metabolize, they capture water soluble phosphates, which they channel directly into the host's roots while using the host plant carbohydrates for food. The root hairs that are normally used for this purpose are thus bypassed. The effect is often seen as a more vigorous plant growth in younger immature plants.

The affected root cells are seldom damaged or destroyed by this fungus which frequently develops an extensive root-like network of its own. This fungal network significantly augments the effectiveness of the host plant root system for phosphate absorption by increasing the total absorptive area available to the plant.

The fungus can become a parasite if photosynthesis occurs at a reduced rate due to lack of proper lighting or temperature. An energy drain is created on the plant system since the fungus now uses a greater percentage of its host's available carbohydrates. The carbohydrate loss may reach levels high enough to interfere with normal growth of other plant parts and cancels the benefits of the extra phosphate.

Ongoing research in this area is concentrating on identifying, isolating and testing various types of root fungi to find new and better natural strains capable of improving crop yields without addition of large amounts of concentrated phosphate fertilizer compounds. Since fertilizer phosphates are water soluble, they are eventually lost if not utilized by plants. Storm water run-off from cultivated areas carries these nutrients away. The phosphates find their way into lakes, rivers and streams to promote algal growth that often becomes a problem in warm weather.

Rick pointed out that experimental laboratory results are difficult to duplicate both in the lab and in the field. Factors such as wide variations in native indigenous soil, pH, composition, microbe count, climate conditions and other as yet unknown forces produce inconsistent data. The widespread use of commercial crop fungicides also poses a problem since these compounds usually destroy most types of beneficial root fungi in addition to the generally harder harmful plant fungi they were designed to control. All these factors combined hinder progress towards practical definitive field results.



The speaker mentioned that use of fungi for improved plant growth and crop yields is more widespread in tropical regions of the world. I was left with the distinct impression that possible major discoveries would be of greater potential value to the developing nations of the

world because fertilizer and fungicide use is not as widespread in these areas.

After Rick's lecture the meeting was adjourned and we were all treated to refreshments provided by Mary Beall. The group then broke up into smaller units, devoting time to looking at quite a few exotic types of caged wild animals. These had been gathered from other parts of the world and included reptiles, amphibians and various types of insects.

A short time later, after all of the specimens had been looked over and initial interest subsided, people started leaving. Some still remained and after much pleasant conversation, lasting very late, the few of us remaining departed for our scattered points of origin.

Mushroom Cookbooks

If you were one of the few lucky ones this year, you may have use for Malfred Ferndock's Morel Cookbook, edited by Peter Leach and Anne Mikkelsen. Besides the two dozen morel recipes, the book contains morel articles, poetry, and fiction by Clusius, Eugene McCarthy, Tom Robbins, and Philip K. Dick. For \$30.00 plus \$1.50 postage, you can have one of 100 signed and numbered hardbound editions (if you hurry and send in your order by 12/31/86). Or you can send \$8.50 plus \$1.50 postage for a regular spiral-bound copy to Malfred Ferndock, Box 86, Dennison, MN 55018.

Commercial Harvesting and Overharvesting

The subject of commercial wild mushroom harvesting and the potential for overpicking has been of growing concern to the mycological community. The following article, reprinted with permission from the January/February 1986 issue of Sierra, the bulletin of the Sierra Club, is a good summary of the problem and some thoughts on handling it.

No Fungus Among Us?

by Philip White

In the Pacific Northwest, a mushrooming controversy is pitting amateur collectors against growing demand here and abroad. Species extinction may turn out to be the story to these morels.

The wet coniferous forest between Northern California and British Columbia may be the world's finest habitat for wild mushrooms. Fungi fanciers here take to the woods in springtime to harvest morels, thought by many to be the most delicious of all edible specimens. In summer and fall they search for many other species: the oyster, meadow, and pine mushrooms, the matsutake and king boletes, and above all the firm, tasty chanterelles that grow abundantly in this region. For years, Northwest collectors, their eyes peeled for yellow chanterelles and other edible mushrooms, have roamed their secret foraging grounds in confidence after good rains. Because there always seemed to be enough for everyone, the supply was thought to be inexhaustible. Conservation-conscious collectors were assured by the field guides that removing the fruiting bodies would not harm the mycelium, which exists below ground. "Take all you can use," the experts said. "It's like taking apples from a tree or

clipping your toenails. Overpicking is impossible."

But about six years ago, recreational collectors began to see people in the woods harvesting mushrooms for money. They took note of the station wagons parked along roadsides, their owners offering to buy fresh wild mushrooms in quantity. These dealers were selling some of their purchases to fancy restaurants and specialty grocery stores, mostly on the West Coast, but more and more wild chanterelles were being sold to companies that treat them for export through Canada to Europe, where wild mushrooms have been relished for centuries. Relished so well, in fact, that they have been in short supply there for years, a consequence (some say) of excessive harvesting in conjunction with poor forest management and highly acidic rain.

In April 1985 the Washington Department of Commerce and Economic Development announced that the West German company Alber Pilzkonservenfabrik planned to open a processing facility in Seattle. The company would employ up to 800 pickers a season and export 800,000 pounds of chanterelles annually, much to the dismay of academic and amateur mycologists alike, who suspect (but cannot prove) that rampant picking for profit will lead to depletion or extinction of prized edible mushroom species.



Two months later the scientific advisor to the Puget Sound Mycological Society, botanist Joe Ammirati, wrote to the Washington Department of Natural Resources (DNR) expressing concern that the recent upsurge in mushroom harvest for export could bring unforeseeable problems. "Overcropping worries us," he wrote, "because it will most likely influence, in a negative way, the sizes of our mushroom crops in the future. We also believe that removal of large numbers of edible mushrooms, which are associated with the roots of forest trees, will have a detrimental effect on the growth and development of the forests."

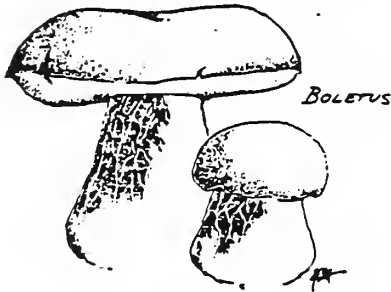
Ammirati suggested that commercial harvesting on public lands be delayed until scientific studies can answer a number of important questions: "Can our mushroom population withstand commercial harvesting? If so, how much, how frequently, and in which areas? How does cropping of individual species influence their abundance over a long period of time? How does the removal of mushrooms from the forests and fields affect the overall ecology and structure of these environments?" Clearly, the questions in this mysterious realm are many. In the absence of reliable scientific studies, Ammirati warned, "we could destroy a valuable natural resource in a short period of time."

In an interview Ammirati indicated that the recent development of a huge export market for Washington mushrooms puts the question of commercial collecting in an entirely new light. "We've always had a limited sale of chanterelles at farmers' markets and to gourmet restaurants," he says, "and it's had little effect on the mushroom crop. But the exportation of large amounts to foreign countries is entirely different."

That difference is now becoming generally recognized. DNR biologist Ken Russell estimated in one memorandum that the annual harvest of mushrooms from Washington state forests alone has grown to a million pounds. The U.S. Department of Agriculture estimates that 7 million pounds of chanterelles were exported from the country at large in 1983. "Until recently, most mushroom-picking operations were small

family affairs," said Russel's memo. "[But] there is a major change with the bigger and often foreign interests sending hundreds of harvesters to the woods. No one knows the impact of high-volume harvesting...[My] gut feeling is that any resource can be overused. We should proceed carefully."

The DNR had responded to the warnings of Ammirati and others by appointing a task force to study the issue. The panel is composed of recreational pickers, commercial processors, mycologists, state and federal land managers, private forest landowners, and representatives from the state's economic development and natural resource agencies. One task-force member, Margaret Dilly of the Puget Sound Mycological Society, suspects that some DNR officials might be more concerned with possible state revenues to be collected from commercial pickers than with the ecological effects of overharvesting. "But overall I think they're being fair so far and responding to our concerns," she says.



A natural resource committee of the Washington legislature also heard from both sides of the controversy at an October 1985 hearing. Some activist mycologists expect the 1986 legislature to consider whether some interim controls should be imposed on commercial collecting pending a thorough study of the problem.

Despite early indications of official concern, the situation remains worrisome to mushroom fanciers. For one thing, no studies have been done to determine whether intensive picking over several years reduces production, either by overcropping selected species or because careless pickers damage the fragile environment in which mushrooms reproduce. (Ammirati hopes to undertake such a study at Mt. Rainier National Park.) Trampling of the forest floor by large numbers of people could damage or kill mushroom mycelia as well as rare or unique vascular plants; so could massive habitat destruction through logging, road-building, off-road motoring, and other impacts.

In addition, everyone is fearful that large-scale collecting by unlicensed, profit-motivated, part-time pickers could lead to human poisonings from toxic mushrooms. Even experienced mushroomers make mistakes; experts insist that the only reliable test of edibility is absolute identification of a species based on its specific characteristics. For this reason they say strict inspections should be required of all mushrooms sold by commercial gatherers.

Meanwhile, the harvesting of wild mushrooms continues virtually uncontrolled. Only rarely is any training required of commercial pickers. Knowledgeable harvesters will take care to leave as much of the mycelium behind as possible, cutting the mushroom caps like asparagus rather than ripping the entire fungus away from its bed. But those working for wages tied to the size of their take will probably not be so fastidious. And few state or federal agencies impose licensing or fee charges on harvesters or regulate the amount of collecting that can be done on public land.

Many believe land managers should err on the side of caution until more is known about the effects of overharvesting. "Even the most expert of experts cannot say absolutely that overharvesting will or will not cause depletion," says Marilyn Shaw, education chair of the Colorado Mycological Society. "But we must assume that nature does not provide

all these fruiting bodies and spores without a need to do so." In other words, because so few spores fall on favorable growth sites, nature may respond by producing spores in profusion.

The overpick issue is not unique to the Northwest. At a North American Mycological Association (NAMA) meeting in West Virginia last July, a Committee on Mushroom Conservation was appointed after delegates from Colorado, Wisconsin, the Northwest, and Toronto expressed fears that commercial picking could deplete mushroom beds. The committee chair, Maggie Rogers, is librarian of the Oregon Mycological Society and co-editor of Mushroom, the Journal of Wild Mushrooming (Box 3156, University Station, Moscow ID 83843). Rogers notes that NAMA has for several years coordinated a wild-mushroom watch, whereby all members are encouraged to record data on weather conditions and the kinds, numbers, and locations of mushrooms found -- information that over time may help mycologists determine whether mushrooms are declining in number or disappearing altogether in heavily picked areas.

Experts have suggested various ways to protect wild mushrooms, including control of commercial collecting, "sport-picking" licenses and seasonal limits on recreational pickers (similar to programs long in place for hunters and anglers), banning the export of wild mushrooms, and commercially cultivating desirable wild species that myciculturists have been able to domesticate, such as chanterelles. (Cultivation of some species, such as oyster and shiitake mushrooms, is already taking place.)

With careful study, much could be learned about a valuable natural resource that in many significant ways remains mysterious. But without some near-term control strategy to prevent overpicking, the answers, when they are finally found, may be of purely academic interest.

Membership List

Please make the following corrections and additions to the membership list which you received with the last Fungifile mailing.

<u>NAME</u>	<u>ADDRESS</u>	<u>HOME</u>	<u>DAY</u>
Barbara Beaman		919-493-7439	
Dianne Berg			919-542-2204
John Bond		704-264-4275	704-262-3025
Ken Crouse		919-921-3068	
Kerry Givens	240 N. Duke St., Lancaster, PA 17602		
George Hrepta	568 Glastonbury Rd., Nashville, TN 37217		
Emily Johnson		412-327-6296	
Rick Kane	Rt. 4, Box 410, Pittsboro, NC 27312		
Doug Ludy		919-942-3941	
Virginia Pact		919-688-8537	919-286-0411
Rick Sloane	Box 5124, Raleigh, NC 27650		
Joanne Whitcombe		919-493-8265	

Pictures

Thanks to Kerry Givens for the drawings of pleurotus, coprinus, and boletus which appear in this issue.

Rain and Mushrooms

The following is excerpted from an article with the above name which appeared in the December 1985 issue of The Spore Print, journal of the Los Angeles Mycological Society. The article (by editor Greg Wright?) reviews another article by the Danish mycologist Dr. Morten Lange entitled "Fleshy Fungi in Grass Fields. II. Precipitation and Fructification" (Nordic Journal of Botany, Volume 4 pp. 491-501). (Doesn't bode well for the remainder of our already barren season.)

"Dr. Lange found some relationships between rainfall and fruiting which applied to all the mushrooms [in a field he was studying]. First, at the beginning of a season and also after a long dry period, it took 25 to 30 days after a heavy rain for a good crop of mushrooms to fruit. Secondly, after the field was mowed (and therewith the mushrooms cut down) or after a short dry period, it took 5 days for a mushroom crop to appear. It turns out that the 25 to 30 days is the time required by most mushrooms for dormant mycelium to become activated, grow, and finally produce the tiny primordia which enlarge to become mushrooms. The 5 days is the time required for primordia to become mushrooms.

The effect of drought as a mushroom inhibitor was found to depend especially on the amount of sunshine falling on the field. A sunny day in summer set back fruiting more than a sunny day in the fall. As few as 2 sunny days in summer had a detrimental effect on fruiting."

Triangle Area Mushroom Club
Box 17061
Durham, NC 27705

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CAROLINA CAMPUS

IS YOUR LABEL CORRECT?



the fungifile

Newsletter of the Triangle Area Mushroom Club

P.O. 17061, Durham, North Carolina 27705

Volume 5 Number 5 September/October 1986

President: Jacques Poirier: 210 W. Lavender Ave., Durham, NC 27704 477-5837
Secretary/Treasurer: Owen and Pat McConnell: 2808 Butner St., Durham, NC 27704...477-5178
Editor (ad interim): Bill Burk: 1122 Sourwood Dr., Chapel Hill, NC 27514 942-6387
Foray Chairs: Dianne Berg: Rt. 1, Box 122, Pittsboro, NC 27312 ... 933-9628
Mary Aycock: Rt. 2, Box 103, Warrenton, NC 27589 ... 257-1826
Program Coordinator: Tom Krakauer: Rt. 2, Box 377C, Bahama, NC 27503 471-9459

MARK YOUR CALENDAR

Meetings

September 8: Dr. Larry Grand, Professor of Plant Pathology at NCSU-Raleigh, will talk on mycorrhizae and the fungi that form them. Meeting at 7:30 pm in Room 215 Coker Hall, UNC campus, Chapel Hill. Enter through side door. See map page 50.

October 6: Dr. Rytas Vilgalys, newly appointed professor at Duke University's Dept. of Botany, will give a talk, "Common decomposers: white spored mushrooms you have known and ignored." Meeting at 7:30 pm in Room 215 Coker Hall, UNC campus, Chapel Hill. Enter through side door. See map page 50.

November 10: Tasting and toasting: sharing members' favorite mushroom recipes. Details to be announced.

December 8: Annual potluck dinner. Details to be announced.

Forays

FORAY POLICY: Deluge/Drought Policy: Normally, we will go out in the rain. However, if there is exceptional rain on the morning of the foray, call the contact person to find out if the foray is cancelled. Dry conditions, leading to frustrating hunts for nonexistent fungi, have proven to be more of a major problem in this area. If you think there is any chance that it has not rained at the site for some time previous to the scheduled date, call the contact person, foray leader, or foray chairpeople within 72 hours of the foray to find out if it will be cancelled.

Take off time from meeting place is 10:00 am. If you would prefer to meet us at the foray site, call contact person for directions. Bring

lunch! Also basket, waxed paper or bags, knife, field guide, & whistle.

Meeting places: Texaco Station: University Mall parking lot in Chapel Hill, corner of Estes Dr. & 15-501 Bypass.

Battle Park: From 15-501 Bypass in Chapel Hill, take 54W (Raleigh Road), and turn right at first light on to Country Club Road. Pass Forest Theater on right, then turn right on Boundary Street. Park in small picnic area parking lot on right, behind Forest Theater.

Umstead State Park, Raleigh: For further details see middle of page 43 and for map see page 50.

September 6: Saralyn area of Pittsboro. Reschedule of June 29. Meet at Texaco Station 10 am. Leader Wally Kaufman (542-4072).

September 21: Umstead State Park, Raleigh. Foray and potluck picnic. For details see middle of page 43. Contact Carl Rich (467-7826) or Bill Burk (942-6387).

September 27-28: Beaufort, NC, and vicinity. Any member interested in making a 2 day trip to the coast, please contact Bill Burk (942-6387) who has information on good collecting sites for this area.

October 5: Battle Park, Chapel Hill. 10 am. Leader Bill Burk (942-6387).

October 18: Haw River/Jordan Lake area. Last foray for the year. Meet at Texaco Station 10 am. Contact Dianne Berg (leader) (933-9628) or Bill Burk (942-6387).

Impromptu Forays

by Ed Haynes

This system depends on someone initiating impromptu forays. No one is designated as initiator, so it is incumbent upon the membership (you!) to notice when and where mushrooms are up, and to start the notification process by calling Ed (493-7703) or one of the officers. Remember, this is the crucial step in the project, and the success of impromptu forays depends on you.

IF YOU ARE INTERESTED IN BEING NOTIFIED OF IMPROMPTU FORAYS, AND ARE WILLING TO PARTICIPATE IN THE PHONE TREE TO NOTIFY OTHERS, SEND A POSTCARD TO ED HAYNES (3447 Hope Valley Road, Durham, NC 27707). List phone numbers and times at which you are most likely to be reached.

deCurrent Events

September 4 (7:30-8:30 pm): North Carolina Botanical Garden, Chapel Hill: INTRODUCTION TO MUSHROOMS. A slide/tape program developed by Willie Koch that provides an introduction to mushrooms, some look alike, their ethnobotany and edibility. Cost \$4.00 non-members of the Garden; \$3.00 members of the Garden. Advance registration required. Contact North Carolina Botanical Garden (967-2246).

September 5-7: Terra Alta Mountain Camp, Terra Alta, West Virginia: MUSHROOM WEEKEND. Details in May/June *Fungifile*. For more information, write Nature Education Department, Brooks Nature Center, Oglebay Park, Wheeling, WV 26003. (304)-242-6855.

September 25-28: Priest Lake, Idaho: NAMA/SMC INLAND PACIFIC NORTHWEST AMATEUR FORAY. For information write: Spokane Mushroom Club, Inc., P.O. Box 2791, Spokane, WA 99220.

September 29-October 17: MUSHROOM STUDY TOUR OF SOUTHEAST ASIA. Details in May/June *Fungifile*. For information write to: Emanuel Salzman, c/o *Fungophile*, P.O. Box 5503, Denver, CO 80217-5503. (303)-296-9359.

- October 8 (1-4 pm): Beaufort, NC: FUNGI: FACTS AND FICTION. A general slide program followed by field trip. Open to the public. FREE. For information and reservations, contact Jeannie Kraus, North Carolina Maritime Museum, Beaufort, NC 28516. (919)-728-7317.
- October 10-12: Beaufort, NC: INTRODUCTION TO FUNGI. A workshop to be given in three sessions: 1. (Oct. 10, 6-8 pm); 2. (Oct. 11, 9:30 am - 3:30 pm); and 3. (Oct. 12, 2-4 pm). Cost: \$20.00. For further information and reservations, contact Jeannie Kraus, North Carolina Maritime Museum, Beaufort, NC 28516. (919)-728-7317.

A Fungal Farewell

by Bill Burk



On behalf of the TAMC membership I would like to wish Joan Zeller, the mycological dynamo that kept the club going and the glue that kept the organization together, the best of luck in Rochester, NY. We shed our spores, but know Joan's mycelial ties with TAMC will continue.

To honor Joan for all of her unrelenting work with TAMC activities and her mycological friendship, a Foray and Potluck Picnic will take place in Umstead State Park, Raleigh, on September 21, between 9:30 am - 6:00 pm. Bring your favorite dish to share and a beverage. If necessary, each person will need to provide his/her appropriate storage (ice chest, etc.) for any dishes that are subject to spoilage. Carl Rich will bring his grill. A foray will precede the picnic. For directions to Umstead State Park see map (page 50). Signs at the park will direct you to TAMC's meeting place. Contact: Carl Rich (467-7826) or Bill Burk (942-6387).

Busick Foray

by Mary Beall and Dianne Berg

In spite of the drought of '86 and July's horrible heat we held a successful foray on Sunday, July 20th. We (the Bergs, Bealls, and Carl Rich) met on Saturday afternoon at the Berg's cabin near the base of Mt. Mitchell. Even at the foot of the mountain it was at least 15 degrees cooler than it had been back in the Triangle area.

Before having a hamburger cook-out that evening, we explored the trout stream and woods near the cabin. There we found a few small boletes, "LBM's" and a small chanterelle.

After breakfast Sunday morning we travelled by car to the beginning of Bald Knob Ridge trail in the Black Mountains of the Blue Ridge. The trail runs from the Blue Ridge Parkway near the entrance to Mt. Mitchell State Park for 2.8 miles down to Forest Service Road 472.

For the first mile or so it winds through old-growth stands of huge hemlocks and Fraser fir with an understory of tufts of grass which lend the illusion of a well-tended park. The hemlocks gave the air a wonderful, fruiting aroma and on their huge, downed logs we found many, beautiful colonies of *Ganoderma tsugae* (hemlock varnish shelf).

The lower end of the trail changes to hardwoods of oak, beech, Fraser magnolia and maple with some poplar along the steep last .2 mile. Here we found more spectacular polypores, including several large *Bondar-*

zewia berkeleyi (Berkeley's polypore) and enough tender, young *Laetiporus sulphureus* (chicken mushroom) to take back to the cabin and saute for lunch - delicious!

After lunch we attempted to identify all the other specimens we had collected on the trail. Over 14 species were found.

(Many, many thanks to the Bergs for allowing us to use their delightful cabin and for serving as foray guides.)

Mushroom Poster

A mushroom poster, free for the asking, has been issued by the U.S. Dept. of Agriculture. Thirteen commonly found mushrooms are illustrated in color by Heather Preston. The poster is 20" X 30" and North Carolinians can obtain it from: National Forest in North Carolina, P. O. Box 2750, Asheville, NC 28802. Ask for poster 86-CFFP-10.



Morels in Cultivation: an update.

by Bill Burk

Few mushroom enthusiasts need to be introduced to that delectable fungus, the morel. Morel finds in the Triangle area can be spotty, or as in this year of drought, virtually non-existent. Ever since Ron Ower* published information on the growth of the morel in *Mycologia* (volume 74, pp. 142-144, 1982), there has been cautious encouragement that, maybe, just maybe, the morel might some day be cultivated as the grocery store *Agaricus* is today.

In an article of the July 22, 1986, *Christian Science Monitor* it is reported that "scientists at the Neogen Corporation [in Lansing, Michigan] ... have uncovered the secret of commercially cultivating the elusive and highly prized morel mushroom." Apparently, morels have very particular temperature and humidity requirements, along with the need for a constant flow of water. Don't expect to see cultivated morels in the supermarkets soon because improvements in the cultivation process will take another year or year-and-a-half. Neogen, however, states that their cultivated morels taste and have the texture of the wild ones. It is difficult to hold back the ecstasy of thinking that in the near future one will enjoy fresh morels year round!

[Thanks to Doug Ludy for bringing the article to my attention.]

* The mycological community has been saddened and shocked to hear that Ronald Ower, first successful cultivator of morels, was found dead on the streets of San Francisco in April 1986.

Membership List

Please make the following addition to the membership list which you received with the May/June *Fungifile*.

Michael R. Shaffer, CAMSCO Produce Co., Inc., P.O. Box 169, Blandon, PA 19510

Illustrations

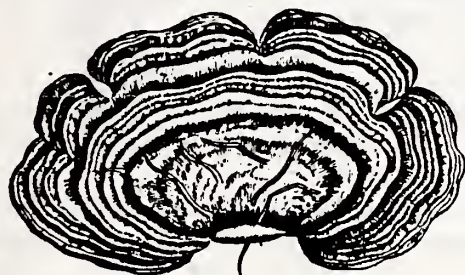
The illustrations used in this issue of the newsletter are from T.F.L. Nees von Esenbeck and A. Henry's *Das System der Pilze*, 1837.

The Book Shelf

Harper's Mushroom Reference Guide and Check List, by Herbert H. Harper. 1985. 170 pp. \$12.95, plus \$1.50 postage/handling. Available from Herbert H. Harper, 8975 N. Shore Trail, Forest Lake, MN 55025.

"A reference guide to 1775 species of mushrooms in North America, compiled from thirteen commonly used field guides and presented in easy-to-read tabular form. You may quickly get a summary of information without searching through each book, and see patterns in locality, habitat, time of fruiting and edibility for a particular genus or family. See at a glance which field guides describe a particular species."

Celebrating the Wild Mushroom; a Passionate Quest, by Sara A. Friedman. 1986. 256 pp. \$18.95 (hard copy); \$10.95 (paper). Available from Dodd, Mead, P.O. Box 141000, Nashville, TN 37214. Or, call toll free phone, 1-800-251-4000, and ask for Bethany or Lori.



"... the enchanting story of one woman's total fascination with mushrooms. Sara Ann Friedman introduces the reader to the people who inhabit a thriving, remarkable, little-known world: those who passionately collect, study, and cook mushrooms. Along the way she sheds light on the strange history of these fungi, at various times the objects of worship, scorn, confusion and controversy. Her book contains a field guide for the beginning mushroom hunter, recipes using the most delicious edible mushrooms and scores of richly detailed illustrations. It is bound to delight anyone interested in the wonders of natural history."

Joe's Book of Mushroom Cookery, by Jack Czarnecki. 1986. 340 pp. \$20.95, plus \$2.50 postage/handling. Available from Jack Czarnecki, Joe's Restaurant, 450 South Seventh St., Reading, PA 19602. Phone: (215)-373-6794.

Review: *More than Fifty Ways to Eat Your Mushrooms*, by Ed Haynes

Recently, many of us received advertising materials in the mail trying to induce us to purchase *Joe's Book of Mushroom Cookery*, written by Jack Czarnecki, inheriting proprietor of the grand tradition of Joe's Restaurant in Reading, Pennsylvania. His name and culinary shrine are, of course, familiar to many and the now-normal price of \$20.95 included Jack's offer to add a personal inscriptorial scrawl to each volume.

For those who haven't ordered a copy yet, you probably should not bother--unless, of course, you are interested in getting one of the most exciting cookbooks for mushrooms (or most anything else) on the market.

Most "mushroom" cookbooks--for better or



worse (and usually the latter)-- are of the "health food" genus and are, therefore, frequently tiring and unexciting. Likewise, most offer no sense of what wild mushrooms are appropriate or inappropriate to what specific recipes or general culinary treatments. While good mycophagy can be had from other mushroom-specific cookbooks (or, for that matter, from better general cookbooks), none enjoy the sensible sophistication of both the recipes and the experience that Czarnecki offers us. He provides the best theoretical treatment of mushroom cookery I have ever encountered, addressing in detail questions of cleaning, storage, simple safety precautions, and comparative uses for dried and fresh mushrooms (with some good "rules-of-thumb" for translation between the two very different substances). A few recipes are simple and easy, many are complex and well worth the effort, but none seem dull or disappointing. To give only a few exemplary hints of the joys of this book, consider "Whiskey and Juniper Berry Sauce with Shiitake" (especially recommended for that wild boar in your freezer), "Apricoted Cornish Hens with Chanterelles," "*Clitocybe nuda* Stuffed with Bryndza [or other sharp cheese]," or "Scrambled Eggs with Morels."

For the price I had expected a typed, photocopied, plastic-spiral-bound "quickie" of a cookbook. Here, again, Jack has offered us a pleasant surprise: This is a hard-bound, serious cookbook with color photographs. All else aside, Jack has given us what must be one of the great physical cookbook bargains of the decade.

Recipe: *Chicken with Oyster Mushrooms.* (From *Joe's Book of Mushroom Cookery*, pages 168-169) (see above review)

Approximate preparation time: 20 to 30 minutes. Useful advance preparation: This recipe utilizes leftover, cooked chicken meat. Makes 4 servings.

This recipe is for leftover chicken or turkey meat. Any part of the cooked carcass can be used, white or dark meat. It is very quick and satisfying. Serve over toast triangles, and with a Chablis.

1 1/2 cups heavy cream	12 ounces cooked chicken or turkey meat
1/2 cup chicken stock	from breast, cut into 2-inch strips
1 tablespoon cream sherry	8 ounces fresh oyster mushrooms, sliced
1 teaspoon fresh, crushed	into 2-inch strips
garlic	salt and pepper to taste
1 tablespoon prosciutto or	2 tablespoons cornstarch mixed with
Westphalian ham, chopped	1/3 cup water
fine	
1 tablespoon onion, chopped	
fine	

1. Combine all the ingredients except the cornstarch mixture in a heavy skillet. You may also want to save the salting until the dish is slightly heated.

2. Heat until simmering over a medium flame, then continue simmering over a low flame for 5 minutes.

3. Thicken with the cornstarch-and-water mixture, and adjust for salt as necessary. Serve.

"May Wild Mushrooms be Sold or Served in Retail Food Establishments?"

(Tangential to the topic of commercial harvesting and overharvesting of mushrooms which was a feature article in the last issue of the *Fungifile* is the question of whether wild mushrooms should be sold or served in retail food establishments. The following article, reprinted from volume 7, number 2, pp. 8-11, 1986, of *Capitol Mushrooms*, the newsletter of the Mycological Association of Washington, concerns this topic. Editor's note)

"That is the question the Food and Drug Administration is asking and proposing to answer. The FDA's Center for Food Safety and Applied Nutrition, Retail Food Protection Branch, issued on May 16th, a Proposed Program Information Manual on this subject, which was circulated to an Interpretations Review Group, including MAW. ...



The FDA defines "wild" mushrooms as "not commercially cultivated" and proposes to include them under the model food sanitation codes which "specify that food be obtained from acceptable sources and be safe for human consumption." We reproduce here the FDA proposal, which apart from suggesting rules for the assurance of safety, includes a useful summary of the dangers from different mushroom toxins and a list of popular myths about how to tell if a fungus is toxic.

Mushrooms are the fruiting bodies (reproductive structures) produced by a number of higher fungi. These structures arise, usually seasonally, from a mass of thread-like tissue called hyphae which grow in the soil, in compost or on wood.

There are approximately 5,000 species of fleshy mushrooms which grow naturally in North America. The vast majority have never been tested for toxicity. What is known is that about 15 species are deadly and another approximately 60 are toxic to humans irrespective of whether they are consumed raw or cooked. Fully 40 other species are poisonous if eaten raw, but are safe after proper cooking.

There are many varieties of mushrooms commonly eaten without adverse effects. These include the following cultivated species (MAW Editor's Note: this list refers to commercially sold species not all of which are commercially cultivated.): domestic mushroom (*Agaricus bisporus*); oyster mushroom (*Pleurotus ostreatus*); straw mushroom (*Volvariella volvacea*); wood ear (*Auricularia auricula*); trumpet mushroom (*Craterellus cornucopoides*); enoki (*Flammulina velutipes*); shiitake (*Lentinus edodes*); giant puffball (*Calvatia gigantea*). Other species which grow wild are often picked and safely eaten by thousands of Americans. These include: morels (11 species) (*Morchella* sp.); chanterelles (*Cantharellus cibarius*); porcini or cepes (*Boletus edulis*); coral or gold spear (*Ramaria aurea*); meadow mushroom (*Agaricus campestris*).

Harvesting of these wild species usually involves a family's return each year during the same season to search for the same species of mushroom in the same "secret" place, i.e. wooded area, fence row, orchard, railroad bed. They then prepare their find following favorite family recipes.

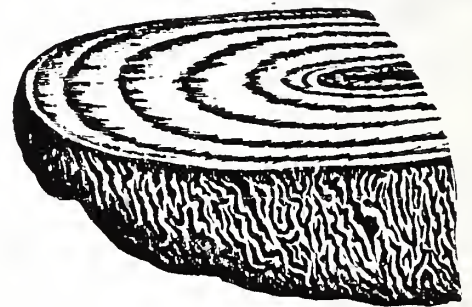
In recent years, there has been a growing demand for new varieties of mushrooms. This growth may be due to the faddish emphasis on things "natural," the increased interest in having a variety of eating experiences, and the influx of foreign cuisines. Retail food stores are offering more and more varieties of mushrooms. Restaurant menus reflect the trend with

such dishes as mushroom soup garnished with morels, duck with shiitakes or potage aux chanterelles...

Growing along with consumer interest is the risk of foodborne illness outbreaks attributable to mushroom toxins. Although statistical information has not been published for the most recent five year period (during which consumption has been increasing), there were 48 intoxication outbreaks in the ten year period of 1972-1981. Even in Europe, where wild mushrooms have been eaten for hundreds of years, there are many incidents of mushroom poisonings. For example, the *Swiss Medical Weekly* notes 45 fatalities out of 205 cases of "death cap" poisonings between 1971 and 1980.

Most poisonings are due either to misidentification or to misconceptions. Mushroom identification is a difficult skill to acquire and few in the United States have been trained to do it. Even trained mycologists sometimes find it difficult to identify certain mushrooms. Thus, mistakes are possible, particularly when differentiating between edible species and poisonous look-alikes. One fatal example was the 1969 Yugoslavian episode in which people were poisoned by the false chanterelle (known as the Jack-o'-Lantern in the United States). The chanterelle and the false chanterelle have much the same color, size, and shape.

Down through the ages, the determination of whether or not a particular mushroom species should be classified as edible has been based on the responses of people who tried it. Unfortunately, this method of trial and error has resulted in incomplete knowledge (with occasional loss of the tester). In addition, there are several variables which further complicate the problem. Mushrooms with the same physical characteristics may have different chemical compositions.



An error in identification can be life-threatening, since many varieties of mushrooms are toxin producers. In fact, there are four separate categories of mushroom toxins:

I. Toxins that cause cellular destruction. Two examples are phallotoxins and amatoxins. These cause liver and kidney damage and frequently result in death. By the time the symptoms are evident, 6 to 10 hours, it is too late to pump the stomach. The victim suffers extreme pain for four to six days before death. There is no antidote for amanitin poisoning.

II. Toxins that affect the autonomic nervous system. An example is muscarine which affects the heart rate, the dilation of blood vessels and the constriction of the pupils of the eyes. Symptoms appear in 20 minutes to two hours.

III. Toxins that affect the central nervous system. Examples of these are ibotenic acid, psilocybin and psilocin. These toxins act as hallucinogenic substances and, if ingested in large quantities, can cause death or severe toxic effects. Symptoms appear in as little as 15 minutes. Some of these toxins also cause blood poisoning. The false morels, to which some deaths have been attributed, produce a toxin in this category.

IV. Toxins that primarily cause gastrointestinal irritation. Many genera are capable of being gastrointestinal irritants. These toxins are rarely fatal, but could be fatal to the young or to adults when ingested in large quantities. Symptoms appear in 30 minutes to 3 hours.

The most common and dangerous misconception about mushrooms is that there is some quick, foolproof method of description or test of edibility. There is no visible sign on any mushroom that indicates whether or not it is toxic. What's more, almost every edible kind of mushroom has an inedible or poisonous species with which it can be confused.

Some of the myths concerning (tests for) the toxicity of mushrooms which have emerged over the centuries are: garlic will turn black or blue when cooked with poisonous mushrooms; a silver spoon will tarnish when cooked with a poisonous mushroom; the cap of an edible mushroom will peel; fungi growing on wood are safe to eat; a wild mushroom that has been nibbled is safe; all mushrooms that stain when bruised are poisonous; all mushrooms that secrete a milklike fluid are poisonous; and parboiling, drying, salting or pickling will detoxify poisonous mushrooms. None of these myths has any validity.

Since there is no sure way for food establishment operators to tell whether a mushroom is edible or toxic, the safest procedure is for them to purchase, prepare, serve, or sell only mushrooms which have been commercially cultivated. This minimizes the risks of misidentification.

Where a food company or establishment operator desires to sell or serve wild mushrooms, they may be able to locally arrange to have their mushrooms individually inspected and sorted by a properly qualified mushroom specialist. This might be arranged in cooperation with a state mycological society, a university or other organization having members that are recognized authorities in mushroom identification.

The inherent danger associated with consumption of wild mushrooms is so great that the regulatory authority is justified in prohibiting the sale or service of such mushrooms in retail food operations where no acceptable local inspection program exists.

When uninspected and unapproved wild mushrooms are encountered during establishment inspections, the condition constitutes an imminent health hazard. It would, therefore, be appropriate to consider an action against the mushrooms under the food code's provisions for "Examination and Condemnation of Food." This section states in part "... the regulatory authority may place a hold order on any food which it has reason to believe ... may pose a health hazard to the public ..."

In situations where action against the product is not considered sufficient to protect the public's health, it would also be appropriate to consider an action against the person's permit to operate, under the food code's provisions for suspension of a permit. This section states in part that "The regulatory authority may ... suspend any permit to operate ... if the operation ... constitutes an imminent hazard to the public health ..."

Wild mushrooms are NOT to be sold or served through a retail establishment unless they have been individually inspected by a specialist acceptable to the regulatory authority.

Comments on this proposed regulation should be sent to:

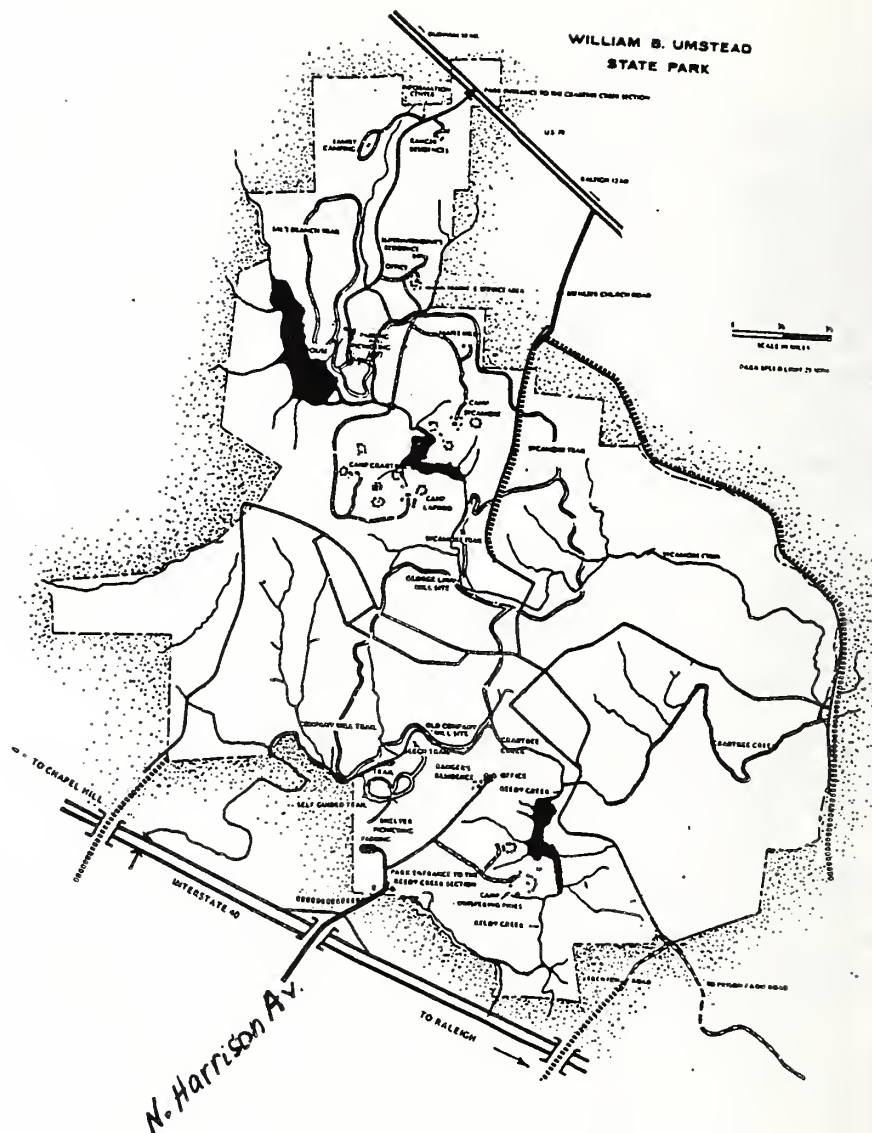
Interpretations Coordinator
Retail Food Protection Branch, HFF-342
FDA Center for Food Safety and Applied Nutrition
200 "C" Street SW
Washington, DC 20204

The telephone is (202)-485-0140."



Umstead State Park-Raleigh
 Sept. 21, 9:30 am - 6:00 pm
 Foray/Potluck Picnic

- ① Exit I-40 at
 N. Harrison Avenue
- ② TAMC signs will
 direct you to the
 picnic area.

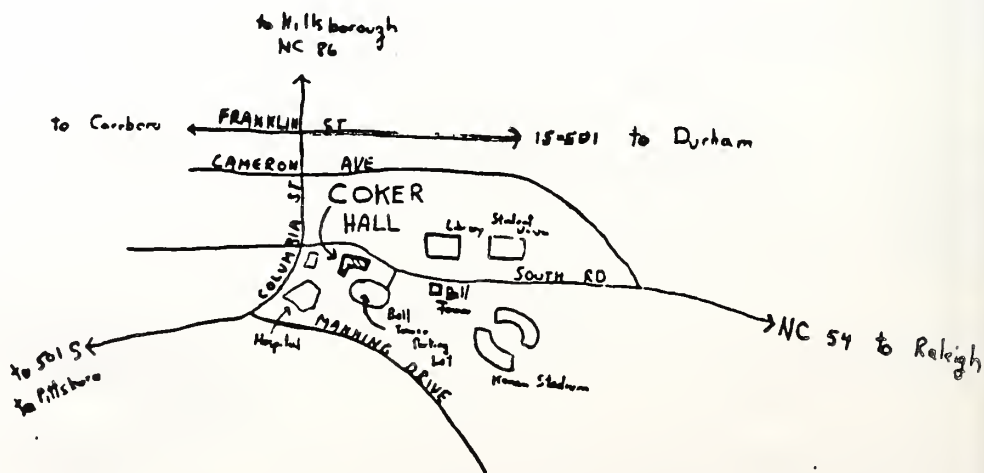


Coker Hall, UNC-Chapel Hill

Sept. 8, 7:30 pm
 (talk by Larry Grand)

-AND-

Oct. 6, 7:30 pm
 (talk by Rytas Vilgalys)



Kerr Lake Foray

After a prolonged drought the Kerr Lake foray provided many TAMC members the turning point for finding fungi once again. Mary Aycock was the organizer and leader of this event, and we thank her for an enjoyable mushroom hunt. Welcomed rain showers shortened collecting in the woodlands to about 45 minutes. Nonetheless, at the picnic shelters we sorted out over 35 species. The following list represents those species which were identified. Most of the boletes were identified by Owen McConnell, who although not present at the foray, found a tray of unlabelled boleti at his door step upon his return from a vacation.

Amanita flavoconia
A. rubescens
A. vaginata
Boletellus betula
B. russellii
Boletus affinis
B. curtisii
B. fraternus (?)
B. pseudosulphureus
Cantharellus cibarius
Crepidotus applanatus
Daedalea quercina
Favolus alveolaris
Hydnellum aurantiacum

Lactarius peckii
L. subplinthogalus
Lycoperdon echinatum
L. perlatum
Marasmius nigrodiscus
Paxillus atrotomentosus
Phaeolus schweinitzii
Russula aeruginea
R. emetica
R. krombholzii (?)
Strobilomyces confusus
S. floccopus
Tylopilus plumbeoviolaceus
Xerocomus illudens

TRIANGLE AREA MUSHROOM CLUB
 1987 MEMBERSHIP APPLICATION FORM

Send form and dues to TAMC, Box 17061, Durham, NC 27705. Make check payable to TAMC.

DUES: [] \$8.00 Individual [] \$7.00 Corresponding
 [] \$2.00 Associate (One Associate membership should be
 obtained for each additional participating family member.)
 [] \$12.00 North American Mycological Association (individual
 or family) Send separate check payable to NAMA.

Name(s) _____

Home address _____

City _____ State _____ Zip _____

Home phone _____ Day phone _____

Mailing address _____

(Please use campus address whenever possible so that we can save on TAMC mailing costs. NAMA publications will be sent to your home address unless you specify otherwise.)

page 52

Triangle Area Mushroom Club
Box 17061
Durham, NC 27705

IS YOUR LABEL CORRECT?

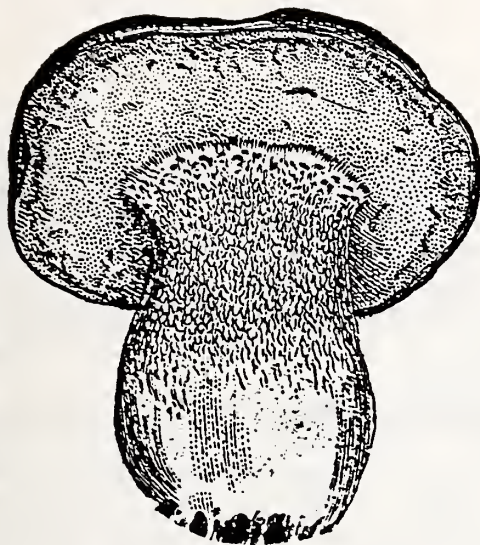
TAMC depends on the willingness of its members to participate in all aspects of the club. Please indicate if you can help:

- ___ do occasional errands or phoning
- ___ provide host homes for meetings, or for out of town speakers or guests
- ___ write newsletter articles
- ___ do newsletter sketches
- ___ present a meeting program (slide show, talk, lab, etc.)
- ___ supply refreshments at meetings occasionally
- ___ lead a foray
- ___ serve as an officer or on a committee
- ___ other _____

Comments, suggestions:

I hereby release the Triangle Area Mushroom Club and any officer or member there-of from any legal responsibility for injuries or accidents incurred during or as a result of any field trip, excursion, or meeting sponsored by the club.

Applicant(s) signature(s): _____ date _____
_____ date _____



the fungifile

Newsletter of the Triangle Area Mushroom Club

P.O. 17061, Durham, North Carolina 27705

Volume 5 Number 6 November/December 1986

President: Jacques Poirier: 210 W. Lavender Ave., Durham, NC 27704
..... 477-5837
Secretary/Treasurer: Owen and Pat McConnell: 2808 Butner St., Durham, NC
..... 27704... 477-5178
Editor (ad interim): Bill Burk: 1122 Sourwood Dr., Chapel Hill, NC 27514
..... 942-6387
Foray Chairs: Dianne Berg: Rt. 1, Box 122, Pittsboro, NC 27312 ... 933-9628
Mary Aycok: Rt. 2, Box 103, Warrenton, NC 27589 ... 257-1826
Program Coordinator: Tom Krakauer: Rt. 2, Box 377C, Bahama, NC 27503
..... 471-9459

MARK YOUR CALENDAR

Meetings

November 10: Tasting and Toasting. Bring your favorite mushroom dish to share with club members, and also bring copies of your recipe to give to interested members. Meeting at 7:30 pm at the home of Jacques and Marsha Poirier, 210 W. Lavender Ave., Durham, phone: 477-5837. See map page 65.

December 8: Pot-luck dinner and member slide show. (TAMC's annual Christmas meeting). Bring food and any slides of interesting pictures, unknown mushrooms, TAMC functions that you would like to show. Meeting at 7:30 pm at the home of Jacques and Marsha Poirier, 210 W. Lavender Ave., Durham, phone: 477-5837. See map page 65.

January 12: Jack Billman will show his slides of mushrooms. Details to be announced.

February 9: Annual business meeting and elections. Details to be announced.

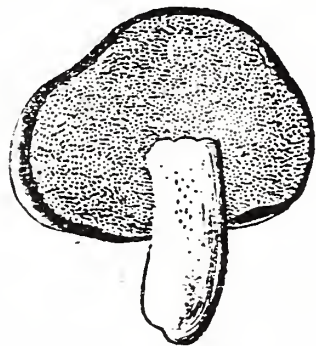
deCurrent Events

October 30-November 2: Breitenbush Community, Detroit, OR: WILD MUSHROOMS V. A variety of mushroom lectures and activities, including fungal genetics, medicinal mushrooms, identifying psychoactive mushrooms, mushroom cultivation, close-up photography, and biology of truffles. Cost: \$135.00 (a \$50.00 deposit is required). For further information and registration contact Breitenbush Community, P. O. Box 578, Detroit, OR 97342. (503)-854-3501 or 854-3314.

January 3-January 19: Austria, Switzerland, Yugoslavia, and north Italy: TRUFFLING THROUGH EUROPE-ACT III (the gastronomic adventure of a lifetime). A truffle tour including truffle hunts, gourmet meals, special guest lecturers, cooking demonstrations, mushroom specialties, fascinating truffle markets, special sightseeing programs, and scientific visits. Cost: \$2,698.00 (leaving from New York). For further information contact Mr. Frank Pipal, Educational Tours, Inc., 5935 South Pulaski Road, Chicago, IL 60629. (312)-767-0477 or 767-9076.

January 24-February 7: Amazon (in Peru): AMAZON MUSHROOM-PLANT FORAY 1987. Trip begins in the upper Amazon River at the jungle port of Iquitos, ultimately to the jungle of the Rio Samiria. Cost: \$2,999.00 (a \$100.00 deposit is due by November 10, 1986 and the balance by December 10, 1986). For further information and registration contact The Wild Mushroom Traveling Road Show, Inc.-AMAZON FORAYS, P. O. Box 126, East Haddam, CT 06423. (203)-873-8286.

Renewal Time: dues are due



This issue of *The Fungifile* is the last one for 1986. If you have not already renewed your membership in the Triangle Area Mushroom Club, now is the time to take action. Dues are due January 1, 1987. An application form is printed on the last page of this newsletter. Some interesting meetings are being planned for next year, including programs on shiitake culturing; truffles and morels; preserving mushrooms; and basic mushroom identification workshops. Field trips will be made appropriate to the seasons.

As TAMC is associated with the North American Mycological Association, our members get a discount if they wish to join NAMA. Dues for NAMA are \$12.00 a year (individual or family), and include subscriptions to the bimonthly *Mycophile* and annual journal, *McIlvainea*, privilege of attending the annual national foray and numerous other educational services. The application form on the last page of this newsletter can be used for joining NAMA. Please include a separate check payable to NAMA. The deadline is January 1, 1987.

September Meeting: Mycorrhizae

by David Higgins

The September 8th TAMC meeting was held on the UNC-CH campus. Dr. Larry Grand, from NCSU, was the guest speaker. The subject was mycorrhizal relationships, and it was very interesting. Dr. Grand gave an enjoyable, informative, and fast-paced talk, just as he had done the previous time he spoke before us.

A mycorrhizal relationship is one that forms between the mycelium of a mushroom and the roots of trees. It is a symbiotic relationship, helpful to both the tree and the mushroom. The mycelium forms a coat around the fine feeder roots of the tree (these roots are so small that they are annual—they die out each year and new ones grow back). This root-mycelium combination is called a mycorrhiza ("myco" = fungus; "rrhiza" = root).

The tree can grow without the mushroom, but it won't do as well as one with the mushroom. The mushroom, on the other hand, seems to require the presence of the tree in order to survive.

Some mushrooms are very particular about which species they enter into.

relationship with. *Suillus americanus* and *S. granulatus*, for example, will only grow in combination with white pine. Other mushrooms are much less particular about which trees they form a relationship with.

After his talk, Dr. Grand helped with the identification of numerous mushrooms that had been collected on the previous foray.

Thanks to the McConnells and Bill's mother for the excellent refreshments.

October Meeting: White-Spored Agarics

On Monday, October 6, Rytas Vilgalys, newly appointed assistant professor at Duke University's Dept. of Botany, introduced members to his research and then gave a relaxed, informative, and interesting talk/slide presentation on various white-spored agarics.

Rytas explained that his research involves mating studies of Basidiomycetes. Haploid (having half the normal genetic make-up) colonies are cultured from a single basidiospore and these colonies are then observed to see if any haploid colonies will mate with other haploid colonies, thus producing secondary colonies with the full complement of genetic material. Like species will mate with each other, while different species will not. These mating studies are therefore a way of determining species on mating, instead of morphology. Thus, some resolution can be made in determining species. From his studies on *Collybia dryophila* Rytas actually found 4 distinct species. Mating studies will probably reveal that genetic diversity is really great among mushrooms and that more species names may be split from names that we now know.

For the remaining part of the presentation Rytas covered the white-spored agarics in the genera: *Collybia*, *Marasmius*, *Marasmiellus*, *Mycena*, *Micromphale*, *Callistosporium*, *Strobilurus*, *Xeromphalina*, *Cyptotrampa*, *Oudemansiella*, *Resinomyces*, *Clitocybe*, and *Omphalina*. After the talk Rytas identified several fungi that were found on the October 5th foray in Battle Park.

We welcome Rytas to the Triangle area.

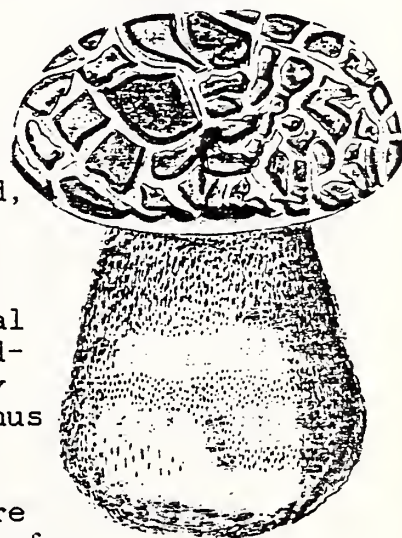
(Also, a special thanks to Agna for preparing the delicious refreshments).

Farewell Foray and Picnic



Many of us were sort of denying the fact that Joan Zeller, TAMC's co-founder and chief dynamo, was actually moving to Rochester, New York. On Sunday, September 21, TAMC members met at Umstead State Park, Raleigh, to say "so long" to Joan. Various members joined Joan for a brief foray in the mixed woodlands near the picnic site. Although the forest floor was drying out, some interesting fungi were found. Species found included: *Fistulina hepatica*, *Strobilomyces floccopus*, *S. confusus*, and *Pulveroboletus auriporus*, and 15 other species which will be itemized when the 1986 species list is compiled.

Next everyone gathered at the picnic shelter for a potluck meal. Before eating, Joan was presented with a card and a going-away-present, a



hefty volume, *Poisonous mushrooms of the northern United States and Canada*, by J.F. Ammirati, J.A. Traquair & P.A. Horgen. Inserted in the book was a poem, written by Jacques Poirier, which summed up everyone's thoughts:

To Joan Zeller

In the four years since you began
To find, agglomerate, and organize
The local mycophiles into a club
Unrivalled in this often damp Southeast,
We admired your ceaseless labor.

As destiny leads you northward,
May your new path be fringed with chanterelles.
Here we will remember those four years
When we couldn't count on finding fungi,
But we could always count on Joan.

Jacques Poirier and current members,
Triangle Area Mushroom Club,
And all members past and future.

Members then shared the dishes brought to the picnic: casseroles (including one with *Leccinum rugosiceps*, brought by the Poiriers), salads, breads, home-made baked beans made by Joanna Billman, watermelons, cakes (including a carrot cake with a Good Luck, Joan, message on it; and a fancy cake made by Mary Beall), and beverages. For the mycophagists present the *Fistulina hepatica* was grilled. The rest of the afternoon was spent socializing. As we departed the park, Megan and Mary Beall pointed out a most incredibly large (6 1/2 inches long) caterpillar with a thicket of horns on its head. Agna identified the creature as the hickory horned devil, which as an adult, is the royal walnut moth, *Citheronia regalis*.

In the parking lot of the park many of us reluctantly said our good-byes. Joan, we wish you well!

The Book Shelf

Fungi of the Duke Forest and their Relation to Forest Pathology, by F.A. Wolf, with the collaboration of K.H. Garren and J.K. Miller. 1938. 122 pp. Duke University, School of Forestry. *Bulletin*, no. 2.

Review

by David Green



This document is oriented towards forestry, and to some extent, agriculture. Mycology is described as it affects these areas; the emphasis is on the effect of fungi on plants. The term fungi is used in its inclusive sense, thus only 403 of the 570 species are Ascomycetes or Basidiomycetes (the classes typically of interest to mushroom fanciers). The document is organized by host, i.e. the plant (usually a tree) with which the fungus is associated. Much of the description is devoted to fungal effects on leaves: rusts, smuts, blotches, powdery mildews and the like.

From the perspective of one ignorant of forestry, several things impressed me, including the contention that slime molds do not actually use wood, but rather the fungi responsible for rotting the wood, the use of the adjective "cosmopolitan" to describe slime molds, and the observation that *Thelephora terrestris* "may more or less completely envelop and strangle seedlings." In general, fungi were treated harshly, with symbiotic and helpful effects noted only rarely and parasitic and harmful effects emphasized.



A fungus species list is given which contains the list of hosts with which each species was associated. In addition, a host list is included which permits the reader to find out which fungi were found on particular trees. The major use of this document from the mushroom fanciers' point of view appears to be in polypore identification, an area not well described in most field guides. As might be expected, species names have changed (along with everything else) over the last fifty years.

Bill Neal's Southern Cooking, by William F. Neal. 1985. 233 pp. \$15.95, plus \$1.50 postage/handling. Available from most bookstores and from The University of North Carolina Press, P.O. Box 2288, Chapel Hill, NC 27514.

Review

by Jeffery S. Beam

A cookbook of foods from, and inspired by, the Old South, Neal's book offers a number of recipes using and featuring mostly cultivated, but some wild, mushrooms. Recipes include, "Fried Apples with Honey Mushrooms," "Mushroom Catsup" (printed below from pages 173-174), and "Chicken with Green Dumplings." Neal records these foods in an historical and cultural context, using recipes one would have found on higher class tables of the South such as in New Orleans and Charleston, tastes redolent of mainly French and African roots. As well as "hybrids" evolving from the melting of cultures as diverse as French, African, English, Scottish, Irish, German, and Spanish, more basic foods common to these early settlers are also included.

Mushroom Catsup

"A well-flavored catsup can be made from commercial mushrooms, but if you have access to chanterelles, flaps, or other foraged wild mushrooms, use them, by themselves or in combination. Shiitake mushrooms, now appearing in many markets, may be employed as well, though their high price will limit their use. Mushroom catsup as a flavoring is added to stews, soups, sauces, and gravies. In older southern cookbooks, this preparation is often referred to as mushroom soy, or simply, soy.

Yields about 1 pint

- | | |
|---|--------------------------------|
| 1 1/2 pounds (675 g) fresh mushrooms, thinly sliced | 36 black peppercorns |
| 2 1/2 teaspoons pickling salt | 1/8 teaspoon whole celery seed |
| 2 to 3 ounces (60 to 85 g) dried porcini or ceps | 1 bay leaf |
| 3 1/2 cups (830 ml) water | 1/4 teaspoon red pepper flakes |
| 1 large onion, thinly sliced | 2 whole cloves |
| 4 large garlic cloves, roughly chopped | 1 1/2 teaspoons dried thyme |
| | 1 teaspoon dried basil |
| | 1/4 cup (60 ml) vinegar |

Recommended equipment: A stoneware crock; two saucepans, one 1 1/2 quart (1 1/2 L) and one 5 quart (5L); strainer; cheesecloth if desired.

Strew the sliced mushrooms in layers in the stoneware crock, sprinkling each layer with salt. Set aside for 6 hours in a cool, dark place. Later, combine dried mushrooms, water, onion, garlic, black peppercorns, celery seed, bay, red pepper flakes, cloves, thyme, and basil in the smaller saucepan and bring to a full boil. Reduce heat immediately and keep at a bare simmer for 30 minutes. Pour over the salted mushrooms and stir about roughly. Set aside for 6 more hours, stirring to bruise occasionally.

Turn the entire contents of the crock into the larger saucepan, bring to a boil over high heat, and boil hard 10 minutes. Let cool and strain through a colander, firmly pressing the solids to release their juices. Discard the mushroom debris and return the liquid to the smaller saucepan. Add the vinegar at this point and boil hard for 2 minutes. Strain again, through cheesecloth, if desired, or bottle as is. Cool to room temperature. Keeps well under refrigeration."

(Thanks to Mary Beall for bringing this recipe to my attention. Ed's. note)

Membership List

Please make the following additions or changes to the membership list which you received with the May/June *Fungifile*.

Toby Freedman	116 Bim St., Apt. A, Carrboro, NC 27510	
Kani Hurow	1020 Pinehurst Dr., Chapel Hill, NC 27514	
Robert H. Peabody	RD 1, Box 250, Milford, NJ 08848	(201)-995-9110
Joan Zeller	49 Edmonds St., Rochester, NY 14607	(716)-442-7091

"Puff the Magic Mushroom"

(From *Rodale's Organic Gardening*, November 1986 issue, page 76)



"Puffed rice and puffed wheat are American institutions by now, but puffed mushrooms? They're technically possible--the first mushroom has been successfully puffed--say researchers at the Eastern Research Center in Philadelphia. The mush puffs (still in the experimental stage) can be reconstituted in water or eaten dry as a low-calorie snack. Will this be the potato chip of the '90s?"

Mushrooms as Anti-Cancer Agents

Dr. Takashi Yamagishi, chief of the Pharmacognostical Division of the Hokkaido Institute of Public Health in Sapporo, Japan, is a visiting scholar at UNC-CH's School of Pharmacy. Part of Dr. Yamagishi's research will include the testing of different mushrooms for anti-cancer properties. If any member should find at least 1 pound of the same species of mushroom, Dr. Yamagishi would be grateful for the specimens. He can be contacted at: UNC-CH School of Pharmacy, Beard Hall, Chapel Hill, NC 27514; phone 962-0086.

BOLETI.

Söcher schwämme.

Comments on the Genus *Suillus* in North Carolina

by Owen McConnell

Most species of boletes in North Carolina fruit in July and August. By the middle of October the variety of bolete species dwindles, and by November only a few species remain. The scarcity of boletes late in the year is partially compensated for by their freedom from insect infestation and their better condition for eating. The genus *Suillus* contains the largest number of late-fruiting species. None of the *Suillus* species are thought to be poisonous, and many are considered good edibles. Because they are all mycorrhizal with conifers, they should be looked for under pines, hemlocks, spruces, and firs. Their occurrence under conifers is perhaps the reason that they can fruit late without the interference of being covered by fallen leaves from deciduous trees.

Although agreement exists on the typical characteristics of species in the genus *Suillus*, there is a lack of consensus regarding the breadth of the concept. Some taxonomists place the small boletes, *rubinellus* and *piperatus* in this genus, but they are atypical in having dry or almost dry caps and red tubes; other authors place them in a separate genus, *Chalciporus*. Also the species, *S. pictus* and *S. decipiens*, were formerly assigned to the genus, *Boletinus*, because of their dry, scaly caps and boletinoid tubes, i.e. pores radiately arranged and rather long. Now they are usually classified as *Suillus*. These four species have been found in NC, and I will adopt a broad concept of the genus *Suillus* which includes them. The typical *Suillus* characteristics, however, are a cap which is viscid to glutinous; unchanging flesh when bruised; a white, yellowish, or ochraceous hymenophore; a more or less cylindric stipe usually having reddish-brown or darker resinous droplets; and an ochraceous, cinnamon or olive brown spore print.



As to range and distribution, the *Suillus* species can be discussed in two groups: (1) those occurring in Florida and the Southeast which range northward into NC and beyond, and (2) northeastern species whose range extends southward into NC. Southeastern species include *S. decipiens*, *S. brevipes*, *S. hirtellus*, and *S. cothurnatus/salmonicolor*. Northeastern species are: *S. americanus*, *S. granulatus*, *S. placidus*, *S. subalutaceus*, *S. pictus*, *S. rubinellus*, *S. piperatus*, *S. subaureus*, and *S. punctipes*. In North Carolina, southeastern species tend to occur more in the coastal plain and piedmont while northeastern species tend to occur mostly in the mountains and sometimes in the piedmont.

The distribution of *Suillus* species in NC is related to their mycorrhizal associations. The southeastern species are usually associated with 2- and 3- needle pines; in eastern NC these pines are primarily loblolly (*Pinus taeda*), short-leaf (*P. echinata*), and Virginia (*P. virginiana*). *Suillus decipiens* has been reported only from the coastal plain and sandhills: Halifax and Carteret counties (Grand, 1981) and Moore County (myself). Grand's collections were associated with loblolly pines, but mine at Southern Pines were with long-leaf pines (*P. palustris*). Singer (1977) also reports *S. decipiens* with long-leaf pines in Florida. *Suillus cothurnata/salmonicolor* may occur only in the coastal plains and piedmont (*cothurnata* and *salmonicolor* differ mainly in the color of their tubes and may not be separate species). They are often found in poor soil in association with Virginia pine, but also occur with loblolly and short-leaf pines.



The very similar *S. pinorigidus*, which forms mycorrhizae with the pitch pine (*P. rigida*), may exist in the mountains of NC where these pines grow, but so far it has not been reported to my knowledge. *Suillus brevipes* and *S. hirtellus* appear to be most common in the piedmont and coastal plain, but have also been observed in the mountains (Hesler, 1960). They are associated with 2- and 3-needle pines, and *S. hirtellus* is probably the most abundantly fruiting species of *Suillus* east of the mountains. Although not as prevalent, *S. brevipes* is probably the best edible *Suillus* in NC. When located it is usually growing in a gregarious or caespitose manner; so a single site can provide enough for a meal.

Several of the northeastern species appear to be exclusively mycorrhizal with eastern white pines (*P. strobus*). These species are *S. pictus*, *S. americanus*, *S. placidus*, and possibly *S. subalutaceus*. They are found primarily in the mountains where white pines grow. However, *S. americanus* was found by Grand (1970) in the piedmont in a plantation of white pines established by the School of Forest Resources, NC State University. In addition, a naturally occurring disjunct, relic stand of white pines exists at the confluence of the Deep and Rocky rivers 6 miles south of Pittsboro and only a 10 minute drive from the coastal plain. Known as the White Pines Natural Area, these conifers have survived there since the Ice Age. On September 20, 1986, I found 21 *S. pictus* and 16 *S. americanus* under white pines in the White Pines Natural Area. Bill Burk dried some of them for the UNC-CH Herbarium.

Other northeastern *Suillus* species in NC with different or more variable mycorrhizal associations are *S. granulatus*, *S. punctipes*, *S. rubinellus*, *S. piperatus*, and *S. subaureus*. *Suillus piperatus* was collected only in the NC mountains by Coker and Beers (1943), and Snell and Dick (1970) have found it in the northeastern U.S. under white pine, hemlock, fir, and spruce. The similar (except for peppery taste) *S. rubinellus*, on the other hand, has been reported only from the piedmont by Coker and Beers (1943). I have found it four times in the Durham and Butner areas under loblolly pines.

Suillus granulatus is very common under white pines in the mountains, but Coker and Beers (1943) also report many collections from the Chapel Hill area in pine woods. Snell and Dick (1970) state that it sometimes occurs in pure stands of red pine or spruce in the northeast U.S. as well as under pitch pine or hemlock at some distance from white pines. I have found it under pitch pines in the NC mountains.

Suillus punctipes has also been collected both in the mountains and piedmont of NC by Coker and Beers (1943) who quote Atkinson as saying "common at an elevation of 4000 and 5000 feet" in the NC mountains. Grand (1970) states that *S. punctipes* was "the most common species of *Suillus* encountered" in the piedmont in association with 2- and 3- needle pines. He notes that it can be difficult to distinguish *S. punctipes* from *S. hirtellus* in the field when both are young or when the fibrils on the cap of *S. hirtellus* are later washed off by rain. The mycorrhizal connections of *S. punctipes* in the mountains of NC are not clear, but Snell and Dick (1970) write that in the northeastern states it is "not infrequent under various conifers, but probably associated only with white pine."



Mycorrhizal associations of *S. subaureus* are also ambiguous. *Suillus subaureus* strongly resemble *S. americanus*, but has a paler yellow color and a thicker stipe. Coker and Beers (1943) report collections of *S. subaureus* from both the mountains and piedmont. They describe some findings in open deciduous woods, saying that "*S. subaureus* is not so much confined to pine-hemlock woods as is *S. americanus*." Snell and Dick (1970) state that *S. subaureus* occurs "normally under or near white pine, but occasionally in stands of red pine or hemlock and quaking aspen with, or rarely without, conifers in the immediate neighborhood, probably where white pines once grew." If it can grow independent of conifers, it would be the only *Suillus* species known to do so and might need to be re-classified.

Based on collections made by Coker and Beers (1943) and my own findings, the following table gives the range of fruiting dates and the month of most frequent fruiting for each species of *Suillus* in NC:

Table of Fruiting Dates of *Suillus* Species in NC

	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>
<i>placidus</i> (3)			20-----26*				
<i>piperatus</i> (4)				2-6*			
<i>americanus</i> (13)			22-----*	-----26			
<i>pictus</i> (8)		15-----*	-----26				
<i>subaureus</i> (10)		17-----*	-----17				
<i>rubinellus</i> (8)		13-----*	-----6				
<i>granulatus</i> (12)		15-----*	-----12				
<i>punctipes</i> (14)		19-----*	-----24				
<i>decipiens</i> (1)						1*	
<i>subalutaceus</i> (5)				24-----*	-----1		
<i>cothurnata</i> (23)				24-----*	-----24		
<i>hirtellus</i> (28)	24-----*	-----24					
<i>brevipes</i> (19)	12 (only date before Oct.)					12----28*	

Note: The first date is the earliest occurrence, the second is the latest, and the asterisk marks the month of most frequent records. The figure in parentheses following the species name is the number of occasions on which the species was observed.

The most omnipresent species is *S. hirtellus*, which was recorded for every month from May through November. Some species with narrow fruiting ranges have been rarely reported; therefore further observations are likely to extend the ranges. Although 8 out of the 13 species have most frequently been seen in August, this finding may in part be due to more field work in that month, especially for mountain species. The three species with glutinous veils which often leave an annulus on the stipe (*S. subalutaceus*, *S. cothurnata*, and *S. decipiens*) all appear rather late, fruiting with peaks in October, although for *S. decipiens* I have only one date (Grand did not publish dates for his collections of *S. decipiens*). *Suillus brevipes* appears to be the latest fruiting of all the species. The earliest record of its appearance in the fall is on October 12 and the latest date of November 28 is the latest of all. Furthermore, in the deep South it may occur all winter, and Coker and Beers (1943) cite one North Carolina record for May 12. There is also a long-stemmed form of *S. brevipes* called variety *estivalis* (Singer, 1977), which I have found twice in Orange County, on August 6, 1983 and October 4, 1980. Further field work is needed to improve our knowledge of fruiting dates and distribution of *Suillus* species.



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Illustrations

The illustrations used in this issue of *The Fungifile* are from Jacob Christian Schaeffer's *Fungorum qui in Bavaria et Palatinatu circa Ratisbonam, Nascuntur Icones Nativis Coloribus Expressae*. 2d edition. Ratisbonae, 1772. 4 volumes.



TAMC Members in the Spotlight

Kerry Givens

Who else could make snakes and caterpillars seem so beautiful and interesting? -- In two recently published articles Kerry, in his typical witty and informative way, writes about green snakes and caterpillars. His articles are:

A Hatch of Green. ("A backyard naturalist photographs the fascinating birth of some of his favorite creatures, the gentle and handsome green snakes.") *Wildlife in North Carolina*, July issue, 1986, pp. 14-17.

and

Could a Caterpillar be Beautiful? ("Not all caterpillars are nondescript crawlers waiting for a stunning metamorphosis. Some are handsome enough already, thank you.") *Wildlife in North Carolina*, September issue, 1986, pp. 19-23.

Tom Krakauer

On the front page of Section D of the *Durham Morning Herald* for September 28, 1986, the plans for a reconstructed NC Museum of Life and Science (Durham) are discussed. Tom is executive director of the museum, and a picture of Tom, holding a dinosaur model, is on the front page. Under Tom's directorship "the museum's plans call for a 30,000-square-foot science and technology building, a "science bridge" covered walkway over Murray Avenue and an animal habitat."

(Will a mushroom exhibit be in the plans also?)

Doug Ludy

A color photo on the front page of *The Chapel Hill Newspaper* for Sunday, August 17, 1986, is captioned: "A Lot of Firewood." The picture clearly shows a large tree (a white oak) that has just been cut down and in the periphery two people, one of whom is Doug Ludy, owner of Ludy Tree Care. Unfortunately, one doesn't get any more news about why the venerable oak on North Street in Chapel Hill was cut down. According to Doug the huge tree was leaning toward the owner's house and also had a healthy crop of the wood invading fungus, *Innotus dryadeus* (also known as *Polyporus dryadeus*), growing at its base. Incidentally, Doug had the fungus identified by Larry Grand.

(It pays to know your fungi, including the wood-destroying species.)

The TAMC newsletter editor would gratefully like to receive any news about TAMC members to share with other members. Also volunteers are needed to help write articles and book reviews.



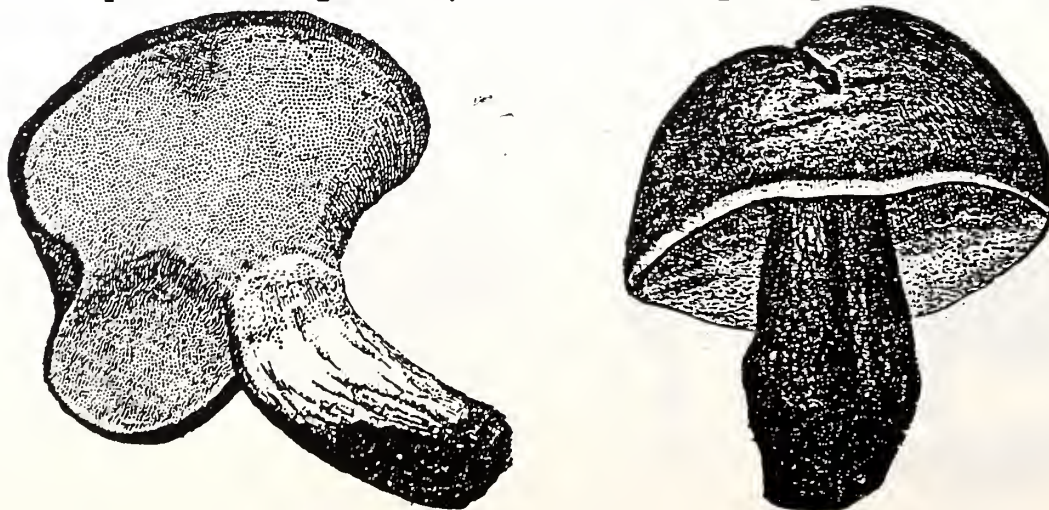
TAMC Library Grows

As of June 1986, TAMC's mycological library consisted of 4 books:
How to Identify Mushrooms to Genus I: Macroscopic Features, 2d edition, by D.L. Largent, 1977.
How to Identify Mushrooms to Genus II: Field Identification of Genera, by D.L. Largent & H.D. Thiers, 1977.
Mushrooms of North America, by Orson K. Miller, Jr., 5th printing, 1981.
and
Simon & Schuster's Guide to Mushrooms, edited by Gary Lincoff, 1981.

In July 1986, Willie Koch, who retired from the Biology Department at UNC-CH, gave the club 17 book titles. Many club members probably remember Willie who gave a presentation on ethnomycology and mushroom look-alikes at the club's first annual Christmas meeting. The club is very grateful for these books:

Ainsworth & Bisby's Dictionary of the Fungi, 5th edition, 1961.
Common Fleshy Fungi, by C. M. Christensen, 1965.
The Mushroom Feast, by J. Grigson, reprinted edition, 1983.
Growing Wild Mushrooms, by B. Harris, 1976.
How to Identify Mushrooms to Genus III, by D.L. Largent, D. Johnson & R. Watling, 1977.
Toxic and Hallucinogenic Mushroom Poisoning, by G. Lincoff & D. Mitchel, 1977.
Britain's Wild Larder, Fungi, by C. Loewenfeld, 1956.
One Thousand American Fungi, by C. McIlvaine & R.K. Macadam, reprinted edition, 1973.
Mushrooms of North America, by Orson K. Miller, Jr., 1st edition, 1972.
Fundamentals of the fungi, by E. Moore-Landecker, 2d edition, 1982.
Psilocybin; Magic Mushroom Grower's Guide, by O.T. Ows & O.N. Oeric, 1976.
Mushrooms of Eastern Canada and the United States, by R. Pomerleau, 1951.
Non-Flowering Plants, by F.S. Shuttleworth & H.S. Zim, 1967.
How to Know the Non-Gilled Fleshy Fungi, by H.V. Smith & A.H. Smith, 1973.
Common British Fungi, by E.M. Wakefield & R.W.G. Dennis, 1950.
Soma: Divine Mushroom of Immortality, by R.G. Wasson, paperback edition, 1971.
and
The Fungi, by F.A. Wolf & F.T. Wolf, 1947, 2 volumes.

With the growth of the club's library a keeper of the books is needed. Anyone who would like to be the "librarian" for the club please contact Bill Burk who now has the book collection. The club also probably needs to think about some guidelines on borrowing books from the club's library. This is a topic that might very well be brought up at the February business meeting.



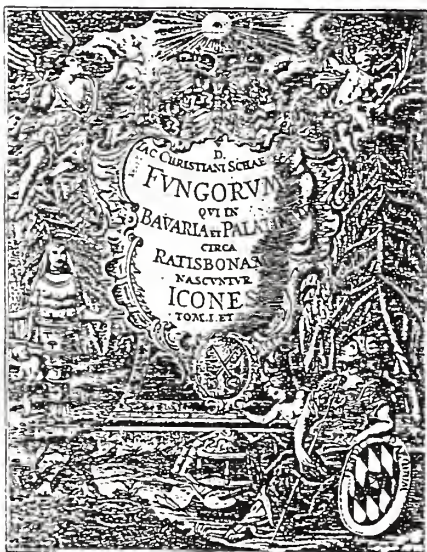
and

at the home of Jacques
and Marsha Poirier
Phone 477-5837

(210 W. Lavender Ave.
Durham, NC 27704)

(Please use campus address whenever possible so that we can save on TAMC mailing costs. NAMA publications will be sent to your home address unless you specify otherwise.)

Triangle Area Mushroom Club
Box 17061
Durham, NC 27705



Holiday Greetings.

IS YOUR LABEL CORRECT?

TAMC depends on the willingness of its members to participate in all aspects of the club. Please indicate if you can help:

- ☐ do occasional errands or phoning
- ☐ provide host homes for meetings, or for out of town speakers or guests
- ☐ write newsletter articles
- ☐ do newsletter sketches
- ☐ present a meeting program (slide show, talk, lab, etc.)
- ☐ supply refreshments at meetings occasionally
- ☐ lead a foray
- ☐ serve as an officer or on a committee
- ☐ other _____

Comments, suggestions:

I hereby release the Triangle Area Mushroom Club and any officer or member thereof from any legal responsibility for injuries or accidents incurred during or as a result of any field trip, excursion, or meeting sponsored by the club.

Applicant(s) signature(s): _____ date _____
_____ date _____